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THE MAGAZINE DEVOTED TO AUDIO-VISUAL AIDS IN EDUCATION

APRIL, 1940

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...ontrolled Experiment in ...isual Education in ...eneral Science

...of the Silent Film in ...Study of Finland

...ducing Films for ...struction in the ...cial Studies

... Use of the Sound Film, "Colonial Children"

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... Future for School-Made ...ublic Relations Films

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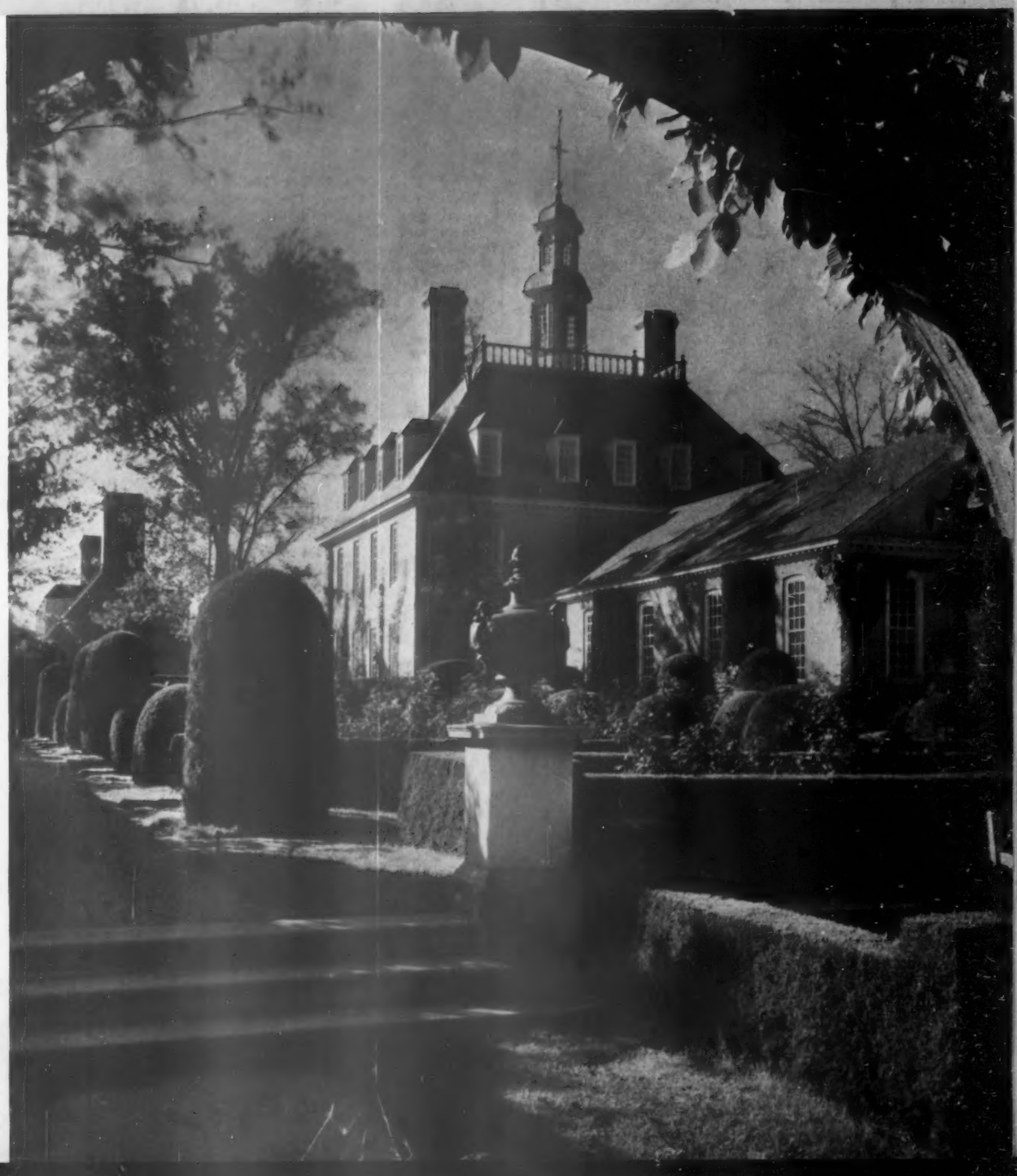
...ceedings of the St. Louis ...Meeting of the DVI ...ompleted in this issue



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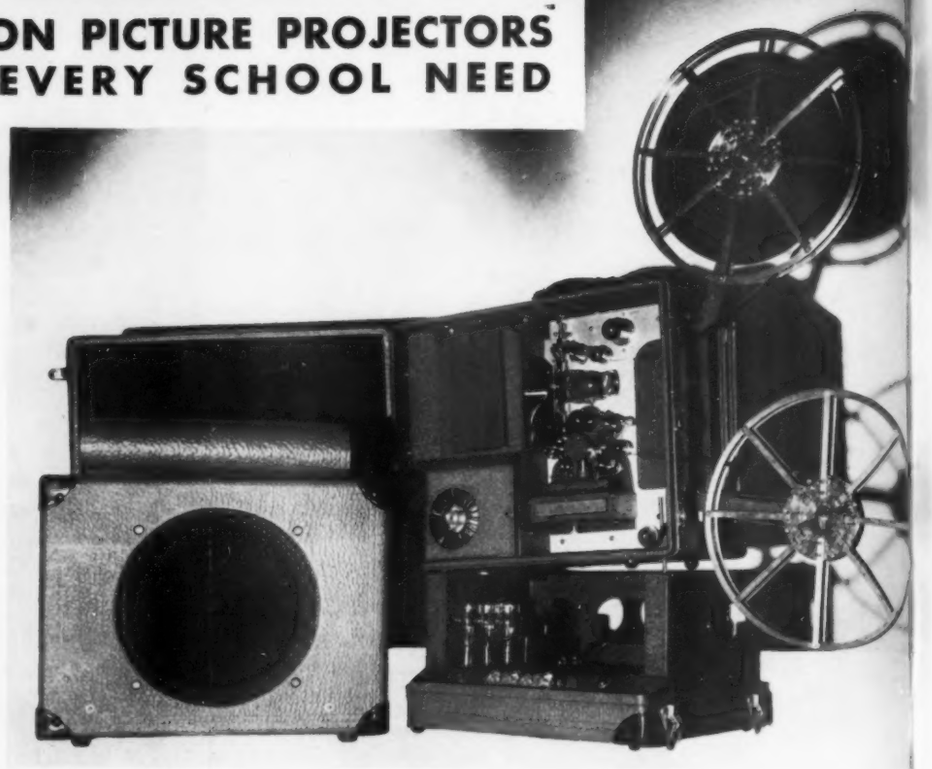

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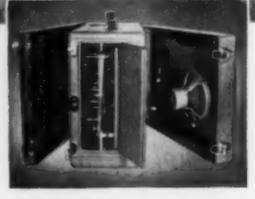

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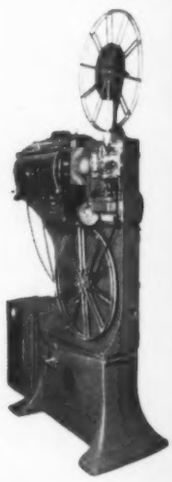

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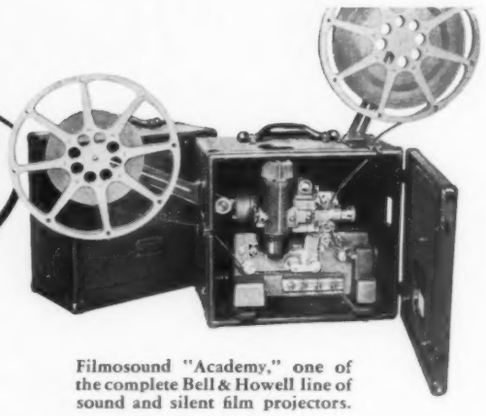

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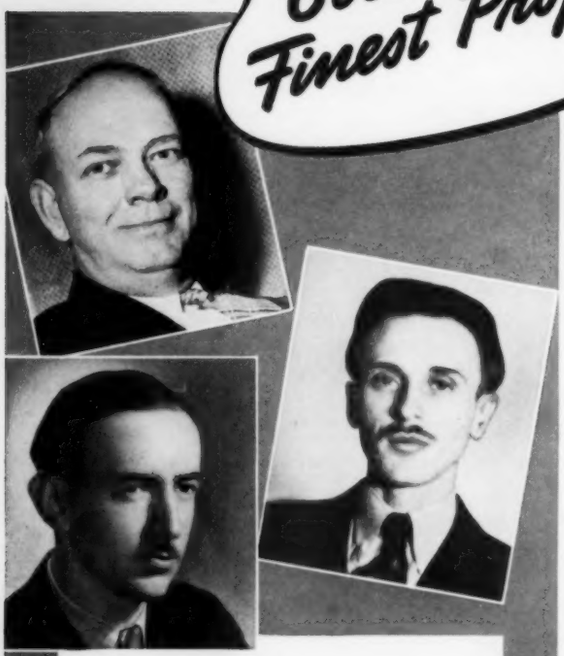

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Selecting Projection Equipment

Written exclusively for the multitude of schools whose brief experience in visual instruction renders them liable to error in the purchase of equipment.

LELIA TROLINGER
Bureau of Visual Instruction
University of Colorado, Boulder

NO claims are made in this paper for originality, freshness of approach, or even revision of old ideas. The suggestions here offered are re-hashed for the hundreds of thousands of amateurs—rank amateurs—who are unknowingly wasting money on equipment which either is not worth what they are paying for it, or is not suitable for their purposes. Those who have used visual aids to any extent will find nothing new here. They have already learned by grim experience what to accept and what to reject. However, unless the subject is presented periodically, the new-comers in the field lack knowledge of sources of information that are unbiased and practical. It is to these new-comers that this paper is addressed.

The Committee on Scientific Aids To Learning has been working on standards for judging motion picture equipment, and that report will be ready soon. It is a study of considerable magnitude. Many technical details are included there that are not even considered here. We recommend that teachers and officials study that report carefully for technical information. The object of this short article is to point out a few of the pitfalls that beset the average teacher or official in rural and village schools, who has not had access to the more technical information given in the larger studies.

Only the most common types of projectors* are considered here—the filmstrip and filmslide machine, glass lantern slide projectors for standard size slides, opaque projectors, and motion picture machines. These are the projectors which are constantly being offered to schools, and the salesman for each type impresses upon the teacher or principal that his particular machine is the last word in modern equipment for an up-to-date school, and makes claims which in some cases cannot be substantiated. Because of the enthusiasm and sometimes high-powered salesmanship, frequently a contract is closed before the school official actually realizes what he or she is buying. If one is allergic to salesmen, all that can be said probably will be of no avail; but to others may we offer this advice. Do not sign a contract for a projector without at least twenty-four hours delay to think it over. During those hours, try to find out something about projectors in general and that particular type specifically.

*—No specific projectors are listed here by name, since a company which by chance might have been omitted, would have sufficient cause to feel that it had been discriminated against, when no such discrimination had been meant. We suggest that you write to your own state Bureau of Visual Instruction, or if your state has none, to the nearest Bureau and ask for a list of approved makes of projectors of the type in which you are interested. Every Bureau has that information and will be glad to furnish it to you.

When filmstrips were first made available to schools, the projectors were far from perfected. At present great strides have been made in the improvement of these. In general one cannot economize *too* much in buying equipment that is to stand up under normal school work. Good workmanship is essential. Several good filmstrip and filmslide projectors are now on the market at reasonable prices. The old machines were equipped with 100-watt lamps; the modern ones have up to 300-watt lamps, and the lighting system is much more efficient. Nearly all the modern filmstrip projectors now have a slide carrier for the two by two inch slides—filmslides they are frequently called. There is much less danger of scratching the surface of the filmstrip in the new machines, hence the filmstrips last longer and give more satisfactory service throughout their lifetime. When buying a filmstrip projector, check the size of the lamp, and whether or not it can be used for either the strip or the individual filmslides.

Lantern slide machines are old, tried, and trusted essentials in the group of school equipment. Fortunately for schools, most of these projectors are standardized to the point where there is not much danger of getting inferior machines. There are a few cheap machines on the market, but really good machines cost so little more than cheap ones, that there is less likelihood of exploitation here. One or two features must be watched, however. Any good lantern slide projector is practically speaking a daylight machine. That is, a school room need not be darkened completely for good projection. Direct light on the screen should be eliminated, but the room can be light enough for note taking with good projection, if the machine has a large lens. For that reason, it is well to consider very carefully before buying a "combination machine," for one or the other machine in the combination suffers when they are joined. For example, the most common combinations are the slide and opaque projectors. In those cases, instead of the large lens, two and a quarter inches in diameter, the lens in the slide machine is cut down to one and five-eighths inches in diameter to avoid the great contrast in the projected pictures. This lens will not give as good slide projection and also requires a darker room. The amount saved does not compensate for the loss in the resulting pictures, and also it halves the actual use of the machine, inasmuch as it can be used for only one purpose at a time, either opaque projection or slide projection. For a small difference, two separate machines can be bought and hours of use doubled if need be.

Of all types of projectors, if conditions are right, there are none which can give a school greater use at so small cost as the opaque projector. Since many types

of paper pictures can be used in these machines, the source of material is almost unlimited and the cost practically nothing. Pictures that have a dull finish do not project well even under ideal conditions and may cause eye strain, but there are many pictures which do project well. However, since the picture is projected by reflection, much of the light is lost. Therefore the room should be almost totally dark in order to assure a projected picture that is strong and clearly defined. In some cases, "daylight" screens are used satisfactorily with semi-dark room conditions, but here actual trial in the room in which the machine is to be used is essential.

Motion picture projectors present special difficulties. In addition to the companies which make good, standard machines for school use, there are many companies which are offering semi-toy machines. These cheap projectors will not stand the constant use (and sometimes abuse) that is given to them in schools, and since they are not built with the necessary precision, they are hard on films. In fact, some film centers will not supply pictures if they know that the films are to be run on these cheap machines. Also it should be mentioned that the lack of precision in construction makes for jerky and flickering pictures, the machines are noisy, difficult to repair and keep in condition, and the optical system is poor. The poor projection may cause eye strain and the noise bothers both teacher and students. Even the best projectors do not project a rock steady picture, and a cheap machine may be very unsatisfactory after a short time. Some of the companies which make the better machines are also making less expensive ones, designed for home use, and when funds are limited and competition becomes strong, schools are tempted to buy the inexpensive machines. Usually they prove to be poor economy, in the long run. Generally speaking, good, silent projectors that will last a school for years can be purchased for sums varying from $100.00 to $150.00. A few satisfactory machines are offered for less than that, although they have certain handicaps. At present few satisfactory silent machines can be bought for less than $50.00 unless they are turn-ins.

In buying a movie projector, check carefully to see how the mechanism engages the film. An intermittent movement on a silent projector which engages the sprocket holes on both sides of the film (double claw) will often give good projection when the type which engages it only on one side will not. Practically all the cheaper types of machines have only the single claw and since they are not precise, the film frequently is slightly damaged on that one side. The damage is sometimes too slight to be detected in a casual inspection, yet will cause a flicker on the screen if run through another machine with an engaging claw on only one side, while it will project a perfect picture when run through the machine with the double claw. In some cases, the intermittent movement is so constructed that several claws engage the film at the same time, although on just one side of the film. In such a machine, if the entire film is slightly damaged, there may still be a flicker, but if only one or two sprocket holes in the film are damaged, there will be no difficulty.

There are other criteria which should be considered in buying any type of projector whether it be lantern slide, opaque or motion picture equipment:

1. Check the source of materials to be used in the projector. For example, unless a school plans to buy its own library of material, it is foolish to buy a filmstrip projector when there is no library within reasonable distance.

2. Check the illumination before buying the machine. Sometimes it pays to also check the model as shown by the serial number on the machine. If a school has waited for months or years to buy a projector, it can afford to wait a week or two to investigate an expensive purchase. Unscrupulous dealers have been known to put higher wattage lamps in old model machines than the machine was built for, with a resulting brilliant light for a short time, but that sort of step-up means very short life for the lamp. The same thing results from using an under voltage lamp (for example, a 90 volt lamp on a 110 volt circuit). A new paint job which obliterates serial number and make of a machine at least leaves room for suspicion.

3. Cost and ease of replacement of parts should be considered when buying new equipment. An "orphan" machine may be good to start with, but replacements are impossible, and the life of the machine may be greatly shortened because of this. The cost and ease of replacement for even standard machines should be considered. With some machines, the repair costs are high, and the service both poor and *very* slow.

4. It has been assumed in the preceding paragraphs that electric current is available. Transformers and storage batteries may overcome the lack of electric current, but if a school plans to use them, the cost should be investigated before the projector is purchased. Sometimes the cost of operation in this case is excessive and after a few showings, the projector lies idle.

5. Good screens are always desirable. Makeshift screens may be satisfactory in some cases, but do not invest in an expensive projector until the matter of the screen has been investigated.

6. Do not take the word of others about the cost of machines. If you are near a large city, there will be representatives of several types of projectors in that city. Check costs of several before making any selection. A few hours spent in comparison of cost may mean dollars saved on a purchase. Reputable companies welcome these comparisons.

7. Above all, *insist upon demonstration of the machine in the schools in which they are to be used.* In a large school system, arrange for all demonstrations from several firms the same day, with the same film (secured from an independent source), and with all representatives present. Then no tricks will be played—using under voltage lamps, wrong types of lenses, claiming devices which supposedly guarantee against film damage (such devices work under certain conditions but nothing can take the place of care in threading the projector), making undue claims for other special devices or gadgets on a particular make of machine. See that the machine being demonstrated is the one on which the bid is being submitted. There have been cases of demonstration of a more expensive model when the model bid upon and delivered has been a less expensive machine. It is a splendid idea for the person

(*Continued on page* 168)

A Controlled Experiment in Visual Education in General Science

MAX C. McCOWEN
Edison Jr. High School
Hammond, Indiana

First Procedure

THE data for this study were collected from two 7-A General Science classes in the Laboratory of Indiana State Teachers College, Terre Haute.

The study was conducted over a period of about thirteen weeks. The classes were equated upon the basis of the student's I. Q. rankings by Otis Tests of Mental Ability. There was a very close I. Q. correlation between the two groups, the median for both groups being 102.5. The group hereafter to be known as the experimental group will be spoken of as the X-Group and the control group will be spoken of as the C-Group. The X-Group was composed of 21 students and the C-Group consisted of 20 students. Both groups will be discussed in relation to the first unit which will be known as Unit A. This unit was entitled "Life on the Earth." Each group was given the same pre-test of the work to be covered during the duration of the unit. The work assigned to each class was the same, except that the X-Group was allowed to see motion pictures (16 mm.) and lantern slides related to their General Science lessons.[1] The writer discussed the films and slides as they were shown to the class so as not to leave any misunderstandings in the minds of the students. Each class was given laboratory work as was needed to explain a science concept. In order that the X-and C-Groups might cover the same material in Unit A, a study guide was prepared to cover each topic in the unit. After the work of Unit A was completed the same pre-test was given as a post-test. (Both Guides and Tests are given in full below). The same length of time was allotted for the unit in both groups with the exception of the class study periods of the X-Group which were proportionally reduced to allow for showing the motion picture films and lantern slides. Lantern slides were shown to review the topics that were discussed in the unit.

This is a partial reprint of a Master's thesis accepted by Indiana State Teachers College. Necessary omissions have been as follows: Chapter One entire, containing introduction, statement of problem, and a comprehensive summary and analysis of previous research; detailed annotation of contents of all films and slides used in the experiment; statistical tables and extended account of statistical procedure for obtaining final figures; and the general bibliography for the study.

Presented here are a full description of the set-up and teaching procedure, and a brief exposition of results attained. A chief feature is the reprinting in full of the elaborate and excellent "Study Guides" and "Tests" for Units A and B in the experiment. Thorough preparation of material is the essential foundation for significant results.—Editor.

STUDY GUIDE

Unit A—Life on the Earth

Topic 1 *Our Smallest Living Things*

Problem

1. Understand what bacteria are, and the conditions under which they grow and reproduce.
2. Know in what ways bacteria aid us.
3. Know in what ways bacteria are our enemies.
4. Understand the relationship of bacteria to human diseases.
5. Know how to guard the human body against invasion by disease producing bacteria.

Questions

1. What are bacteria? How many kinds are there? How large are they?
2. How do bacteria grow and reproduce? Under what conditions do they grow and reproduce best?
3. Are all bacteria harmful? How do bacteria aid men in industry, in food manufacturing, and in maintaining soil fertility?
4. What is the relation of bacteria to disease?
5. How do persons become immune to a disease?
6. How do bacteria enter the human body?
7. What can an individual do to help his body resist disease?

Words you will need to know

environment bacteriology disinfectant antitoxin antiseptic toxin spore immune vaccination epidemic

Laboratory Study—One-celled Plants and Animals

1. Bring to class a small bottle of stagnant water and leave it for us to study.
2. Prepare a slide from one of the cultures of bacteria and study it through a microscope.
3. Make a drawing of what you see.
4. Prepare a slide from the stagnant water that you brought in a few days ago and study it through the microscope.
5. Make a drawing of what you see. How does this slide differ from the first?

Special report: Louis Pasteur

References: Davis and Sharpe, *Science*. Caldwell and Curtis, *Science for Today*. Clement, Collister, and Thurston, *Our Surroundings*. Lake, Harley, and Welton, *Exploring the World of Science*. Pieper and Beau-

1—Used in the experiment were

Six Keystone View Company slide sets of 20 slides each: The European Corn Borer—The Fly—Development of Plant and Animal Life—Living Things—Farm Sanitation—Health.

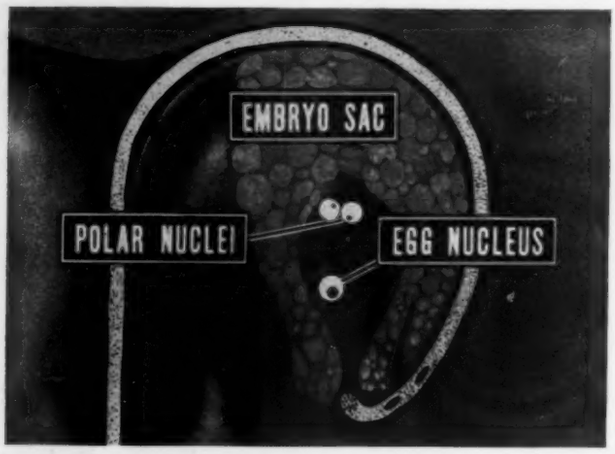
Fifteen Eastman Teaching Films entitled: Tuberculosis and How It May Be Avoided—Diptheria—Life in a Drop of Water—Life History of the Yellow Fever Mosquito—Potato Enemies—Cotton Growing—Wild Flowers—From Flower to Fruit—Mold and Yeast—Planting and Care of Trees—Frogs, Toads and Salamanders—New York Water Supply—Irrigation—Water Power—Drinking Health. Contents of all the above fully annotated in the original thesis.

champ, *Everyday Problems in Science.* Powers, Neuner, and Bruner, *This Changing World.* Powers, Neuner, and Bruner, *Man's Control of His Environment,* Skilling, *Tours Through the World of Science.* Watkins and Bedell, *General Science for Today.* Wood and Carpenter, *Our Environment: How We Use and Control It.* Conn, *Bacteria, Yeast, and Molds in the Home.* Stephenson, *The World of Invisible Life.*

Topic 2 *Other Enemies of Man*

Problem

1. Reasons why the house fly is our most dangerous household pest.
2. The life history of the house fly and mosquito.
3. Methods used to exterminate insect pests.



Animation shows how a pollen tube penetrates a lily ovule. (From the Eastman film "Flower to Fruit.")

Questions

1. Why is the house fly a deadly enemy of man?
2. What is the life history of the house fly.
3. How can we protect ourselves from flies?
4. What is the life history of the mosquito?
5. How can we control mosquitoes?
6. How are insect pests controlled?

Words you will need to know

maggot wriggler anopheles culex crop rotation

References: Davis and Sharpe, *Science* (418-421). Caldwell and Curtis, *Science for Today* (564-565) (632-633). Clement, Collister, and Thurston, *Our Surroundings* (541-545). Lake, Harley, and Welton, *Exploring the World of Science* (671-673). Pieper and Beauchamp, *Everyday Problems in Science* (284-289). Powers, Neuner, and Bruner, *This Changing World* (235-241). Watkins and Bedell, *General Science for Today* (483-485). Wood and Carpenter, *Our Environment: How We Use and Control it* (636-640). Peabody and Hunt, *Biology and Human Welfare* (498-511). Gregg and Rowell, *Health Studies* (438-462).

Topic 3 *The Origin and Development of Living Things*

Problem

1. Have a clear understanding that all living things come from living things.
2. Have a knowledge of how flowering plants reproduce.
3. Have an understanding of how higher animals reproduce.

Questions

1. What are living things made of?
2. What is the structure of cells, tissues and organs?
3. Does life always come from life?
4. What is the structure and function of a flower?
5. How are seeds formed?
6. What is pollination? What are some different agencies of pollination?
7. How do higher animals reproduce?

Words you will need to know

egg sperm protoplasm fertilization pollination

Laboratory study

1. Observe the frog eggs and watch for any changes.
2. After you have studied a flower, dissect the structure that we have discussed in class.

References: Caldwell and Curtis, *Science for Today* (524-536) (581-586). Powers, Neuner, and Bruner, *This Changing World* (Chapter 21). Watkins and Bedell, *General Science for Today* (427-437) (160-161). Wood and Carpenter, *Our Environment: How We Use and Control It* (769-776). Davis and Sharpe, *Science* (347-367). Clement, Collister, and Thurston, *Our Surroundings* (312-317).

Topic 4 *Improvement of Living Things*

Questions

1. What do we mean by the term heredity?
2. Why do you resemble your parents?
3. Who was Gregor Mendel and for what is he noted?
4. Have animals been improved by man? How?
5. Have plants been improved by man? How?
6. Who was Luther Burbank and for what is he noted?
7. How can man be improved? Explain.

References: Caldwell and Curtis, *Science for Today* (587-595). Watkins and Bedell, *General Science for Today* 529-551). Wood and Carpenter, *Our Environment: How We Use and Control It* (686-702) (776-790). Davis and Sharpe, *Science* (438-453). Hunter and Whitman, *Problems in General Science* (609-627). Van Buskirk and Smith, *Science for Everyday Life* (480-487).

TEST
Unit A—Life on the Earth

I. *Multiple Choice*

Directions: Each question will consist of several answers. For each question you are to decide which is the best answer, then write the number corresponding to this answer in the space to the left of the number.

..... 1. The method by which diseases are transferred is of (1) no (2) great (3) slight importance in determining the method of prevention.

..... 2. The most dangerous period of life is (1) babyhood (2) middle age (3) old age.

..... 3. (1) red (2) white corpuscles destroy germs.

..... 4. Cells reproduce by (1) expanding (2) contracting (3) dividing (4) increasing.

..... 5. Bacteria which are shaped like a sphere are known as (1) cocci (2) spirilla (3) bacilli (4) legumes.

..... 6. Bacteria grow best in a place which is (1) dark (2) light (3) cool (4) dry.

..... 7. Bacteria in milk converts the sugar into (1) souring (2) tubercle (3) lactic acid (4) hydrochloric acid.

..... 8. The science of improving the heredity of future generations is known as (1) genetics (2) logic (3) biology (4) eugenics.

..... 9. Laws of heredity were discovered by (1) Edison (2) Burbank (3) Mendel (4) Reed.

.....10. All living matter within a cell is called (1) protoplasm (2) chlorophyll (3) corpuscle (4) nucleus.

.....11. The transfer of pollen from anther to stigma of flowers is called (1) pollination (2) diffusion (3) transpiration (4) fertilization.

.....12. The pollen of the flower is made by the (1) pistil (2) style (3) stamen (4) stigma.

.....13. The statement that "all life comes from life" is (1) false (2) partly true (3) true (4) true only of plants.

.....14. The larva of a fly is called a (1) Cocoon (2) caterpillar (3) maggot (4) wriggler.

.....15. The genus of mosquito that carries malaria germs is called (1) anopheles (2) culex (3) stegomyia (4) wriggler.

.....16. The number of stages in the life history of a fly or mosquito is (1) two (2) four (3) five (4) three (5) six.

.....17. The larva of a mosquito is called (1) worm (2) maggot (3) caterpillar (4) wriggler.

.....18. Mosquitos lay their eggs on (1) grass (2) mud

(3) stagnant water (4) garbage (5) manure.

.....19. The best way to get rid of flies is by (1) fly traps (2) destroy breeding places (3) fly paper (4) swatting them (5) poison.

.....20. The best way to get rid of mosquitoes is by (1) citronella (2) poison (3) swatting them (4) pour oil on breeding place.

.....21. Disease bacteria in the human body give off a poison called (1) antitoxin (2) toxin (3) insulin (4) enzymes.

.....22. The agent used in treatment of diphtheria is (1) vaccine (2) toxin (3) insulin (4) antitoxin.

.....23. A person who does not contract a disease when exposed to the disease germs is said to be (1) vaccinated (2) inoculated (3) immune (4) insulated.

.....24. The process of introducing antitoxin into the blood of people is called (1) vaccination (2) metabolism (3) germination (4) assimilation.

.....25. Bacteria are (1) animals (2) plants (3) insects (4) larvae.

.....26. The passing on from generation to generation of similar traits in living things is called (1) variation (2) evolution (3) heredity (4) pollination.

.....27. A disease carried by drinking water is (1) measles (2) mumps (3) diphtheria (4) typhoid fever.

.....28. Living organisms in water may be killed by (1) filtering (2) freezing (3) boiling (4) shaking.

.....29. All living matter must contain (1) bones (2) seeds (3) wood (4) protoplasm.

II. *True and False*

Directions: Write the letter T or F on the line *before* the number to indicate whether the statement is true or false.

..... 1. In order to prevent the spread of contagious diseases, persons with dangerous diseases are placed under quarantine.

..... 2. Louis Pasteur sacrificed his life to discover the cause of yellow fever.

..... 3. All bacteria are harmful.

..... 4. Diphtheria antitoxin is obtained from the blood of a horse.

..... 5. An animal or plant which lives in or on the body of a living thing from which it takes its food is known as a parasite.

..... 6. Colds are not harmful to people.

..... 7. When a disease spreads rapidly among a large group of people it is known as an epidemic.

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68 (L55070) General Science Units — Health—Insect Carriers of Disease

One of the slides in the Keystone unit on Health

..... 8. The pollen of flowers is made by the pistil.

..... 9. "All life comes from life."

.....10. A person can protect himself during an epidemic of typhoid fever by boiling his drinking water.

.....11. A fuzzy-like growth on old exposed foods is mold.

.....12. Scarlet fever is caused by sore throat.

.....13. Germs live in clean places.

.....14. Molds destroy food easily in dry atmosphere.

.....15. Bacteria are animals.

.....16. To live and to grow, animals must have sunlight.

.....17. Common disease germs may have the form of a pyramid.

III. *Completion*

Directions: Write in the space the correct word or words that will make the statement true.

1. When a frog reproduces, a cell called the ..... unites with a cell called the ..... The process is called .....
2. One-celled animals are called .....
3. Yeast plants reproduce by sending out small outgrowths called .....
4. With what part of its body does the fly carry germs? .....
5. When germs enter the body or get into a cut, they are immediately attacked by the .....
6. Germs which get into the body reproduce by .....
7. Most of the damage done by germs is due to the formation of poisons called .....
8. The disease commonly caused by contaminated milk and water is .....
9. When a person can ward off an attack of a disease, the person is said to be .....
10. What chemical may be placed in garbage cans or open toilets to kill larvae of flies .....
11. Single-celled plants germs are called .....
11. Pneumonia is a disease of the .....
13. The disease most often contracted from contaminated water is .....
14. Heating milk to kill bacteria is known as .....

IV. *Matching*

Directions: The following terms are to be matched. You are to write in the space at the left of Column A the number of the item in Column B that describes the item in Column A.

- A -		- B -
..... 1	pollen	1 maggott
..... 2	contaminated water	2 bacteria
..... 3	sour milk	3 similar group of tissue (cells)
..... 4	Fuzzy-like growth	4 yeast
..... 5	sperm	5 tuberculosis germs
..... 6	mosquito, larvae	6 fertilization
..... 7	an organ	7 wriggler
..... 8	sputum	8 larva
..... 9	larva, fly	9 larva
.....10	union of egg and sperm	10 mold
.....11	Pasteurization	11 typhoid fever
.....12	heredity	12 flower
.....13	protoplasm	13 Pasteur
.....14	adult, mosquito	14 living matter
.....15	good sleep	15 malaria fever
		16 Mendel
		17 helps to resist disease
		18 stem

Results from the First Procedure

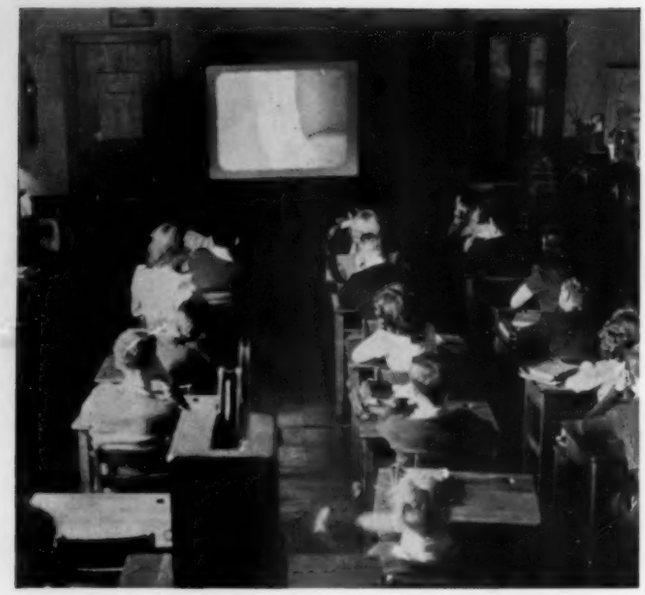
The unit tests were scored by the writer marking only the correct items on the tests. The scores of the unit tests were condensed into tables (omitted here) to show the comparison of the X-and C-Groups in the pre-test and post test for Unit A. The highest possible score was 75. To summarize:

The post-test means of the X-and C-Groups were:

X-Group 47.28
C-Group 41.95
5.33

The means of the gains of the X-and C-Groups were:

X-Group 25.95
C-Group 19.20
6.75



A General Science film lesson

To measure reliability of the Unit A tests, the standard error of the mean for each Group was found both for the post-test and the difference between the pre-test and post-test. By usual statistical procedure were derived (1) *a critical ratio for the post-tests* showing that the X-Group will surpass the C-Group 94.52 times out of 100, and (2) *a critical ratio for the gains* showing that the X-Group will surpass the C-Group 99.81 times out of 100.

Second Procedure

A second unit, which shall be known as Unit B, was taught in which the previous control group became the new experimental group and the previous experimental group became the new control group. These new groups will be spoken of as X-and C-Groups in relation to Unit B. This unit was entitled "The Relation of the Water Supply to the Welfare of the Community." The X-Group was composed of 19 students and the C-Group consisted of 20 students. The same techniques that were used in the first procedure were used in the second procedure. This second procedure was used to serve as a check upon the first.

STUDY GUIDE

Unit B—The Relation of the Water Supply to the Welfare of the Community

Topic 1 *Methods of Purifying Water*

Problem

1. A knowledge of what water is made up of.
2. A knowledge of common methods in use to purify water.
3. A knowledge of how to purify water in your own home.

Questions:

1. What is water?
2. What is the universal solvent?
3. What impurities are commonly found in water?
4. How are chemical impurities removed from water?
5. How is water purified in the home?
6. How is water purified by distillation?
7. How are temporary and permanent hardness removed from water?

Words you will need to know

sterilize bacteria solvent hard water soluble insoluble

Laboratory experiment

1. What is water made up of?
2. How can water be purified by filtration?

References: Caldwell and Curtis, *Science for Today* (73-92). Clement and Collister and Thurston, *Our Surroundings* (45-67). Hunter and Whitman, *My Own Science Problems* (79-102). Lake, Harley, and Walton, *Exploring the World of Science* (69-99). Peiper, and Beauchamp, *Everyday Problems in Science* (176-215). Watkins and Bedell, *General Science for Today.* (50-68). Davis and Sharpe, *Science* (117-139). Gregg and Powell, *Health Studies* (496-510). Wood and Carpenter, *Our Environment: Its Relation to Us* (8-43), *How We Adapt Ourselves to It* (185-281), *How We Use and Control It* (181-234), Van Buskirk and Smith, *The Science of Everyday Life* (81-104).

Topic 2 *How Communities Obtain Pure Water*

Problem

1. A realization of the importance of a pure water supply.
2. A knowledge of how various types of communities obtain an adequate supply of pure water.
3. A knowledge of the types of impurities found in water, their sources and dangers and the methods used in removing them from water on a large scale.

Questions

1. How do persons who live in the country or in a small town secure an adequate water supply?
2. How are the inhabitants of large cities supplied with pure water?
3. Of what importance is pure water to the health of the communities?

Words you will need to know: septic tank antiseptic

References (Same as for Topic 1)

Topic 3 *Using Water in the Home and Community*

Questions

1. How is water distributed in your home?
2. How does water enable us to get rid of sewage?
3. What are the dangers of improper sewage disposal?
4. What are the modern methods used for sewage disposal?
5. How is sewage disposed of in your community?

Words you will need to know: septic tank antiseptic

References (Same as for Topic 1)

TEST

Unit B—The Relation of the Water Supply to the Welfare of the Community

I. *Matching*

Directions: The following terms are to be matched. You are to write in the space at the left of Column A the number of the item in Column B that describes the item in Column A.

- A -		- B -
..... 1	Contains mineral matter	1 Channel for carrying water
..... 2	Water	2 Water
..... 3	Aqueduct	3 Contains bacteria
..... 4	Sewage	4 Sterilize water
..... 5	Rivers and lakes	5 Hydrogen & oxygen
..... 6	More pressure	6 Used to dispose sewage
..... 8	Universal solvent	7 Hard water
..... 7	Septic tank	8 Greater the depth of the water
..... 9	Chlorine	9 Sources of water supply for a city
.....10	Reservoir	10 Whirlpools
.....11	Deep driven well	11 Less the depth of the water
		12 Storage for water
		13 Source of pure water

II. *Completion*

Directions: Write in the space the correct word or words that will make the statement true.

1. ..... atom ..... plus ..... atom will combine to make water.
2. Water is a .....
3. ..... can be used to purify impure water.

(*Continued on page* 172)

Proceedings of the Winter Meeting of the Department of Visual Instruction of the National Education Association

(Concluded from March issue. This completes all Proceedings available from the St. Louis meeting, held February 27 and 28, 1940)

Use of the Silent Film in Study of Finland

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St Louis County Schools

ONE day last December a 5-A teacher found two boys poring over the top of a floor globe, and heard them saying, "Gee, it's a little country," and "Look at all the lakes!" It was Finland. The children had been hearing their parents talk about the invasion and the defense of the Finns. "Ski troops and white coats so the soldiers won't show against the snow!" "And guns hidden under the snow." The other pupils coming in joined in the eager conversation. "I never heard of such fighters!" "Who is this guy Mannerheim?" "How do the Finns get that way?"

Such enthusiasm was not to be denied, and the wise teacher quickly decided to push aside the scheduled study of the Great Lakes Region and go into the very live topic of Finland.

Q. What do you know about Finland?
A. She pays her debts to the United States.
A. She has fine athletes.
A. She is going to have the 1940 Olympics.
Q. What should we know in order to understand the Finnish people?
A. How they earn a living.
A. Something about their history.
A. The kind of government they have.
A. Why do they have so many fine athletes?
A. Who is General Mannerheim?

The Teacher's Objectives:—

To give an appreciation of Finnish culture and love of country.

To help the children understand how the Finnish people have built a sturdy, respected nation against an unfavorable geographical background.

To try to keep the study from becoming too much a study of the war alone.

Materials Used:—

Geography texts and Britannica Junior, *National Geographic Magazine, Life, Time,* newspaper & magazine pictures and clippings.

Articles from Finland from the Children's Museum, consisting of boy and girl dolls, wood-carving of a reindeer and sled wth a Lapp driver, some Lapp dolls, some Finnish hand-weaving.

Mounted pictures of Finland.

Lantern slide map of Finland, made by the teacher to save time, and projected frequently during the study.

Eastman Teaching Film—*Finland.*

History:—

The children learned through reading and discussion that the Finns came from Central Russia (originally from Asia) to the land between Sweden and Russia about 700. They were wild, barbaric, pagan tribes. When they began making raids on the Swedish coast, the Swedes conquered them and converted them to Christianity by force. They were conquered by Peter the Great of Russia in the early 18th century, and re-conquered by Sweden under Charles XII. In 1809 Finland was again seized by Russia and made a Grand Duchy, with her own semi-independent government. Thus, Finland was a battleground for her powerful neighbors. But, between times she was left alone and her Fundamental Law was recognized by both Sweden and Russia. Repressive measures were imposed by Czar Nicholas II, and Finnish skiers went secretly all over the country and got a half-million names signed on a petition to present to the Czar to restore their freedom. It failed, and in the World War many Finns went to Germany to fight against Russia. Finland was freed by the Bolsheviks in 1917 and Mannerheim, who had been a general in the Czar's armies, came back home to help build up his country and free it of German influence.

Ice breakers keep Finnish harbors open
(From the Eastman film "Finland")

Culture:—

The children learned of the Finnish architect Saarinen, who built the beautiful railway station in Helsinki, and now has an art school at Cranbrook, near Detroit. They heard of the Finnish epic Kalevala, the rhythm of which Longfellow used in Hiawatha.

Geography:—

They learned that Suomi (the Finnish name of the country) means "land of 10,000 lakes." With the map they learned of the glaciation which caused the lakes. They learned that more than half of the country is forest, and that the industries are agriculture (mostly on the west-coast plain), and those connected with the forests, that is, lumbering, wood-pulp and paper-making.

Use of the Film:—

The teacher postponed the use of the film until this point in order to develop a good background of knowledge. She might have used it as an introduction to rouse interest, but it was not necessary in this case, as the interest was already there. She previewed the film in order to learn its content and to adapt it to the grade level. She studied the Teacher's Guide in order to point out processes in industries, and scenes and names already encountered in reading. Before showing the film she asked the children to get out their pads to jot down questions they would want to ask afterwards. (This can be done with practice even in a darkened room.) Then she told the children what the film would show:—scenes in cities, fine public buildings by the architect Saarinen, types of people, forests and farms, wood-pulp and paper-making, athletics and sports. While running the film she interrupted the showing to stress important points and made brief comments during the showing. That the children

watched the film with intelligent interest was shown by the questions which they jotted down and asked afterwards:

Why are there rapids in such a flat country?
Is tobacco raised in Finland?
Do all Finns have large families?
Who was Ilkka (whose statue was shown)?
Why did the man take out the long plug of butter?
What was the thing that caught the salmon?
Why don't we have canals in our country?
What kind of a boat is an ice-breaker?
Why is Helsinki called Helsingfors?
Who are some Finnish athletes?

These questions and some which the teacher took from the Guide (to the film) sent the children off for further reading. The next day was given to answering the questions. The following day the film was shown again, this time for appreciation, for a broader understanding after further reading and discussion, and in order to digest it. There were no comments this time and no stops. After this final showing the teacher asked, "Now, why do you think the Finns have made such a brave show?"

A. The glaciated land makes them industrious and saving.
A. Their hard life makes them physically strong.
A. Their history has made them brave and patriotic.
A. Mannerheim has taught them how to fight in their kind of country.

And one sensitive child said, "I hope some day the Finns will live again as the film shows."

Producing Films for Instruction in the Social Studies

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Erpi Classroom Films, Inc.,
New York

I have been asked to discuss the subject "Educational Film Production" but this subject is much too broad. One of the purposes of this meeting is to discuss certain aspects of film use in the lower grades. Therefore, I have limited my subject to the production of films on this level, and specifically, a film presenting certain aspects of the social studies.

One of the problems of instruction on this level which has always confronted teachers has been how to present subject matter in such form that it can be comprehended by pupils who have little reading ability and whose backgrounds of understanding are much narrower than those of pupils on the upper levels who have had the advantage of many more types of experiences. Attempts to do this have led teachers in many instances into assuming that children in the primary and elementary grades do not have the ability to comprehend many concepts which therefore have ordinarily been postponed to later grades. Experience during the past decade, in the use of instructional films designed to present these more advanced concepts, has led us to realize the error of this assumption.

Some six years ago, following an experiment with sound films in the biological sciences, we were surprised to realize that certain biological concepts which are ordinarily withheld even until high school could be presented understandingly to boys and girls before they had learned to read. Fortified with this experience, we were encouraged to apply what we had learned in this experiment to the problem of presenting social concepts on this level. In other words, we asked ourselves this question. Cannot primary grade pupils who, through the use of the films, have been able to formulate generalizations in the biological sciences regarding the struggle for existence, balance in nature, propagation, tropisms and the like, be led also to formulate generalizations in the social area involving an understanding of human inter-relationships, the effect of environment upon man and in turn man's effect upon his environment, the operation of economic factors and in general the adaptations made by man in an effort to live comfortably and happily in his world?

Early experimentation was indeed promising. We came to realize that genuine learning requires a rich background of experience on the one hand and an adequate interpretation of that experience on the other. Hitherto, restricted environment has limited experience and traditional tools of learning have not been adequate in their interpretation. Through the use of the sound film, however, richly varied experience can become the common possession of all, and the significant interpretation of that experience can be achieved without dependence upon the mastery of reading. We all know that the so-called subjects—"reading," "writing," and "numbering," have held the center of the stage in primary instruction through the years. Experimentation with sound films, however, in the lower grades has led us to realize that maturation which in the past came only with the passage of years of time, can now be accelerated by using the film to present fundamental concepts which formerly were withheld until reading skill had been developed to the point where these concepts could be acquired through wide reading.

Another error into which we have fallen has been the assumption that because of their complex nature, certain ideas and concepts fundamental to an understanding of society could not be added to the primary curriculum because they were too difficult to learn on that level. When we analyze this assumption in the light of our experimental program, we can realize that this means, again, that these concepts cannot be presented successfully through the traditional devices of communication. Many teachers have recognized this and have introduced the social studies by having pupils read about people of other communities and reproduce what they have learned through the construction of miniature houses, doll dresses, transportation devices, and the like. This reading and pictures of these things at best are almost entirely static and devoid of the more vital aspects of living. Too often this leads to an over-simplification of the common problems of human existence. Such problems cannot be analyzed effectively by being taken out of their natural setting and studied in isolation. A clear understanding of these problems can come only through an appreciation of their interrelationships. For example, the food eaten by a people depends upon the type of soil available for tilling, upon the climate, upon modes of transportation, upon refrigeration, and other technological developments. The clothing they wear likewise depends upon many other factors. Their recreational life may exhibit patterns handed down by their ancestors through long periods of history often reaching backward into antiquity. There is also the ever present element of change in ways of life which has come to be so prominent during the past fifty years; for example, the jungles of Africa are regularly crossed by modern airplanes, we see sewing machines in native huts far removed from their origin, the western business suit is rapidly supplanting the national costumes of China and Japan. Educational methods common to Europe and America are filtering into the remotest corners of the earth. The film you are to see this morning will be studied by thousands of children in the Union of South Africa.

This vast panorama of human interrelationship can hardly be encompassed by the child who has to depend solely for clarification upon traditional devices of communication. Experimentation in this field has led us to recognize, however, that many of these fundamental social concepts can be presented very early in the child's educational life by means of the film which has been devised specifically for this purpose. For example, it would probably be agreed that one of the most important concepts in the social studies is the realization of the profound transformations brought about by modern technology. Obviously, however, such a concept cannot be presented in the lower grades if it must be discussed in terms of abstractions. But when the child through the experience furnished by the film is brought face to face with life in colonial times; when he sees that most of the family's time and energy formerly was spent on securing food, on making clothing, on keeping fires going, et cetera, he comes to realize by comparison with his own living the part modern technology has played in providing food, shelter, and clothing, in eliminating drudgery, in pro-

viding leisure time, and thus making possible a richer, fuller life for all.

In the production of films in this area certain factors stand out as most important. To begin with, we must recognize that the instructional film properly prepared carries its own background and does not depend upon the child's previous experience. Secondly, concrete human experiences can be presented. Thirdly, these experiences can be interpreted through the spoken word as they occur. Indeed, they must be so interpreted if the significance of what is seen is to be fully realized, for it is not objects and events in themselves that are important but what objects and events mean in terms of broader relationships. As Dewey has put it in *How We Think*: "All knowledge, all science, thus aims to grasp the meaning of objects and events, and this process always consists in taking them out of their apparent brute isolation as events, and finding them to be parts of some larger whole suggested by them, which, in turn, accounts for, explains, interprets them: i.e., renders them significant."—(*How We Think*. pp. 117-118).

Merely to experience events is not to learn from them. Men had seen lightning throughout history, but only comparatively recently has the meaning of lightning been grasped as one type of electrical phenomenon. Men had seen ships drop out of sight over the horizon countless times before this phenomenon was seen to mean that the earth was round. Likewise, one may enjoy coffee for breakfast every morning throughout a lifetime without ever realizing what this means in terms of the interdependences of the modern world, the nature of international trade, and the world-wide distribution of commodities. These understandings of course depend upon verbal interpretations. It must be recognized of course that verbal interpretations in turn must depend upon tools of learning that the child has mastered in his pre-school experience. These tools are "seeing" and "hearing" and through them the child's intellectual growth during the first six years is probably more rapid and more extensive than in any other equal period of his entire life.

When we have come to realize that many limitations to subject matter presentation have been removed, our vistas have opened up all along the line and new horizons in social studies instruction begin to appear. With the disappearance of these limitations, inherent in traditional mediums of communication, we have come to recognize how profound have been the restrictions which have operated against the fundamental expansion of the social studies curriculum. Too often in the past, we have been forced to present subject matter growing out of the child's immediate environment. We are all acquainted with the stress which has been placed upon the importance of initiating instruction by this means. Of course, it is highly important that the child be led to study objectively his immediate environment and his social relationship but this objectivity can come only through a comparison with other environments and with social and economic relationships which operate with peoples living in distant lands and even in other times. The motion picture makes these comparisons possible. Through the use of the film, the construction of the curriculum of the future will depend more upon the careful selection of fundamental concepts and ideas and less upon the ability of the child to master what in the past have been called "tools of learning."

In this connection, however, we have come to see that the proper use of films leads inevitably to an increase in reading mastery. Pupils are stimulated by the film to undertake more and more reading. In addition to increased reading, pupils' aural and oral vocabularies are also extended. In other words, they understand more of what they hear and can tell more about what they know.

Dr. Gray in a recent experiment conducted in a New York State elementary school reports that truly significant gains in aural and reading vocabulary occurred following the use of films. It is interesting to note, furthermore, that these gains were made with both English and Spanish words. Thus we can see that while more fundamental social concepts are being mastered through the use of the film, at the same time the mastery of word usage has increased as has the scope of experience through extended reading.

These considerations are profound in their implications for instructional film production on this level. We can be freed from the limitations of traditional method. We can select situations for presentation which give promise of achieving the goals of our educational philosophy much earlier in the life of the child than heretofore has been thought possible. Figuratively speaking, through the use of the camera and the microphone, we are able to place the microscope upon elements in a situation which give the total situation meaning and significance. For example, in the film "Colonial Children" we come to see the significance of the *fireplace* in colonial times providing as it does a source for heating the home, for cooking and for lighting the room. The child of today can see that the fireplace of colonial days has been supplanted by great industries nation-wide in their scope, utilizing the power of our waterfalls, employing enormous turbine engines, in great industrial plants, developed through the ingenuity of research scientists in the laboratories of the nation.

Limitations of time and space can be overcome within the twinkling of an eye. Common problems of human living can be brought to the classroom for study and analysis. These problems, concerned with man's efforts to secure food, clothing and shelter, to protect himself against anti-social forces within and without the community, to conserve and protect his health, to set up institutions for the training of the young, to divide the quota of labor among the whole population and to trade with other communities and countries; all of these aspects involve the broader concepts of social and economic living. They are inextricably entwined with the effect of environment upon man, mentally, physically and socially; the effect of man upon his environment; inter-relationships between peoples and nations; the effect of the coming of the machine upon man's standard of living and patterns of culture which have emerged during the course of the history of different peoples.

Some of the most important phases of instruction in this area include comparisons of cultural patterns of diverse races and national groups. These comparisons are so numerous as to preclude their presentation in films devoted strictly to this objective but the presentation of separate patterns of culture in single film subjects will provide materials from which comparisons may easily be drawn in the classroom.

The general criteria for the selection of subject matter are as follows:

1. Subject matter should be selected in terms of its relationship with the total social situation, not isolated from its normal environmental setting.
2. Subject matter should reflect life as conditioned by a moving, changing environment.
3. Subject matter should suggest conflicts both of contemporary and of earlier society.
4. Concrete human problems should be treated as such, problems which arise in the course of practical affairs.
5. The broader cultural interests of man which condition the operation of economy and government should make up a major part of the subject matter.
6. Child interest and capacity shall be used as a control in the selection of life situations represented in the subject matter.
7. Subject matter must be authentic.

Furthermore, the presentation of conditions as fixed and unchanging is to be studiously avoided. Political boundaries are not to be considered as permanent lines of demarcation. Human cultural development and the state of civilization shall not be considered as having been determined but rather as having been conditioned by environment. The mastery of factual information in itself is not to be considered an end. Only those data and situations which have a definite bearing upon problems which man has encountered or is likely to encounter in adapting himself to his environment or in changing his environment to meet his needs, are to be presented. The essence of this type of procedure will be phenomena taken from life and reproduced for study and discussion in the social studies classroom.

Teachers all over the country are coming to realize the value of films produced according to these criteria. We have been deeply impressed with the results which come through this approach to social instruction. Not only have we seen profound social concepts grow in the minds of youngsters; not only

The Broom Committee making a colonial broom

have we seen them studying their own homes and communities objectively; not only have we seen them begin to acquire a control over their own environment but also we have been allowed to witness an exfoliation of creative activity in the form of individual research, in the use of written and spoken language, in music, in art and in dramatics. Furthermore, this growth has been natural. Through the use of the instructional film the teacher no longer finds it necessary to impose problems arbitrarily, no longer is he forced to create artificial situations which often lead to an adventitious activity, frequently dropped as soon as the child leaves the classroom, but rather we find the children themselves raising the questions, proposing the problems, and conducting the research. All this motivated by the film.

The film which you are to see this morning did not just happen. It was not the product of a single continuity writer. It represents the work of some twenty people. Months of research into colonial history were necessary. The social studies curriculum of many typical school systems were analyzed.

1. Aspects of living which could be thoroughly authenticated were chosen. A birch broom from the Boston Museum had to be torn apart to discover the method of its manufacture. Court records of 1680 were searched for words which would be used in the vocabulary of the family. No single word was used which did not appear in these actual records. Characters had to be chosen for their likeness in appearance and speech to what is thought to have been that of the early colonials. They had to be di- the early colonials. They had to be direct descendants from early colonial ancestors.

2. Locations and situations had to be authentic. The entire American wing of the Boston Museum was closed off for two weeks for interior photography. Furniture had to be authentic. Clothing had to be made of the exact materials and in the same way as clothing which still remains from that period in our history. The situations chosen for portrayal were selected because of their deeper social, cultural, and economic implications.

In making use of the instructional film the teacher should not consider it a medium of entertainment or as an interesting break in the routine of classroom work. It is not simply an abbreviated picture show which youngsters can see for 15c in the theatre of any town. Intellectual development must be the primary objective. Passive entertainment is not an end to be sought for in the instructional film but here exists an interesting phenomenon. Through the proper use of films constructed for the purpose of instruction we have seen come into being the thrill of intellectual achievement, the joy of discovery and the pleasure which attends the mastery of new ideas which lead to individual participation in the real and actual work of the world. Thus we see that while truly educational ends have been achieved the child has not been subjected to an uninteresting, debilitating, restrictive form of activity but rather he has been motivated through the film to interesting and exciting activity giving promise of arousing interests which may persist throughout life.

The full potentialities of such a film can be realized only by the teacher who understands its purposes and who employs a proper methodology. Experimentation in this area has led us to realize that there is one simple procedure which seems to stand out above all others in a wide variety of situations. Stated briefly, it is as follows:

1. Before any film is shown the teacher should establish in the minds of all pupils in the group the purposes for studying the film.
2. Present the film.
3. Immediately after the film showing (not the following day or week) initiate a discussion during the course of which three things are accomplished:
   a. Determine how well the purposes previously set up have been achieved.
   b. Clarify any misconceptions which persist.
   c. Use the interests aroused by the film as springboards into the further study of the unit, into all types of research, creative thinking and writing, oral exposition, art, dramatics, etc.

As we listen to the discussion which is to follow let us note how Miss Livermon uses this tested methodology. In this work we must realize that the perpetuation of democracy depends upon the ability of the individual citizen to contribute effectively to the achievement of social goals. The instructional film through its ability to overcome many limitations to human learning seems destined to play a large part toward the progressive realization of this ideal.

The Use of the Sound Film "Colonial Children," in the Third Grade

RUTH LIVERMON
Meadowbrook School
Norfolk, Virginia

THE morning is a cold, bleak day in mid-winter. The snow is falling steadily and thickly.

At the beginning of the work period the teacher unobtrusively places near her a miniature warming pan, made in exact proportions to those of earlier days, but now used in modern homes as an ash tray. She remarks to one of her third graders.

"John, your nose is red. Are you cold? Well, I'm cold this morning. When I came downstairs our furnace was out."

The discussion centers around the state of heating in their homes. They list the various types of heating found in their communities; namely, hot air, steam, heatrolas, oil, community heating plants. As they discuss the subject of heat, the teacher quickly picks up the miniature warming pan. One child asks what it is? The teacher replies,

"This is called a warming pan. In very early days in this country people used big ones like this to help heat their beds."

The class immediately wishes to know why the beds needed this heat. The teacher returned, "We are going in a little while to see a moving picture about

it. I want you to look closely and see what they did use to keep warm. It was very different from our way today."

One child then asks if they wore a great many clothes. The teacher replies, "We'll look for that too. Suppose you write down what we want to look for in the picture."

Their list includes the following questions to be sought in the film:

1. How did Colonial people keep warm?
2. What kind of clothes did they wear?
3. What were their homes like?
4. What did they eat for breakfast?
5. How did Colonial children help their mothers and fathers?
6. How did Colonial children read?

With these questions in their minds and hands, the third grade class sees the film for the first time. Immediately at the conclusion of the first showing the discussion of these questions takes place. One child says, "I saw the warming pan. But did they put it on the top of the bed or underneath it?" Now the necessity arises naturally for clearing up any misconceptions or false ideas which may have arisen during the film showing. Bruce then remarked. "They had milk for their breakfast, but I didn't see any sugar. Did they have sugar?" And now research into the living conditions of the early Massachusetts colonies begins, with the question; Did they have any sugar? If they did have sugar, where did it come from? If they didn't have sugar, what did they use in its place? And as they go into sources for this information the big question of exports and imports comes in; early foreign trade, relations with the mother country, money. From the starting point of the third grade child's question which arises from his own natural interest grow larger problems depending upon creative thinking and enlarged use of resources.

From the third grade child's concrete interests the following activities grew from the film, *Colonial Children.*

1. The making of a broom.
2. The making of a quilt.
3. Visit to Joe's mother to see her antiques.
4. Research on sugar.
5. Letter to absent child telling him about the film.
6. Invitation of class to a father asking him to visit the class.

In the use of this film, the effort is always made to avoid an over simplification of issues. This can be accomplished by emphasizing continually the differences in social living in colonial times and in our modern situations. Reasons for these differences can offset this tendency toward oversimplification in issues. The question, "Why?" should be continually in the minds of all third grade children.

For instance in the broom committee the generalization will be developed that this was the best way to obtain a broom in early colonial times, followed by study of its use then, and the modern methods of cleaning materials, such as the vacuum cleaner and other labor saving devices.

In the sewing group the necessity for learning to sew at an early age will be developed. Why the need is not so great today will be brought out in contrast.

In the visit to Joe's mother to see the antiques, it is hoped that the youngsters will see that there was a need for these materials in early days; that today they are used only for ornaments; and that men have solved our heating problems today in vastly different ways.

In the development of responsibilities the group will see the need for family cooperation in the Colonial period, and perhaps this thinking may open up new responsibilities today.

Subsequent discussion of the film centered around the following questions:

1. What things did the colonists make at their homes which we buy ready made?
2. What articles or conveniences are common today which they did not have?
3. Did they have as much money then as we have today?
4. What did the Colonial children do to have a good time?
5. Was there enough work to go around in those times. Would many people be without work then? Why? What about today?
6. How did they get their ink?
7. Did they have forks?
8. Did the colonists make their own furniture?
9. What were their spoons made of?
10. Did they have watches and clocks? Why did they not have more of these?

The film was shown again when the need arose. Only sections of the film which related to the question were shown when a question was to be solved. For instance, the art committee wished to settle the position of the Adams family in the last scene. Consequently only the last scene of the film was shown to the art committee.

What does all this mean to the classroom teacher?

1. The sound film provides materials which stimulate children to do creative work even where teachers have not otherwise provided for this work.

2. The film stimulates youngsters to work up to the limit of their ability and provides materials which allow the teacher to administer to the need of individual differences.

3. Children are led to set up their own standards of achievement.

4. We find that they are not satisfied with superficial answers. In other words the devices which children have often used of trying to pass the grade by giving answers which they think teachers want have been supplanted by genuine research and investigation eagerly undertaken by themselves.

5. Another effect which teachers are realizing is the identifying of the home with the child's classroom problems. In other words we find parents not assisting their youngsters in learning to read, but rather in reading to learn.

6. Still another effect which we have come to see is the startling changes of attitudes of youngsters toward all their work in school. We find that genuine problems have a way of demanding solution which youngsters cannot and do not wish to avoid.

7. We find that this type of procedure does not demand more of the teacher's time, but that the use of the film does require more careful planning. Their efforts are directed not at what they will assign as work for the pupils, but at planning ways and means of smoothing the path for the pupils who are solving their own problems and are engaging in stimulating creative activity. In other words she becomes an eagerly sought companion in the adventures of learning. Quite often a picture of the classroom which includes the more apparently over-

The Quilt Committee at work.

worked teacher is accompanied by the less active children.

All in all, we find that the classroom film properly devised liberates the teacher from much time consuming drudgery and frees her for more profitable and challenging opportunities of administering to the individual needs of children who are actively engaged in solving fundamental problems of human living.

The Present Situation in School-Made Public Relations Films

WILLIAM G. HART
Harvey H. Lowrey School
Dearborn, Michigan

WE know that at least 90 motion pictures have been produced for the purpose of interpreting the schools to the public. This fact is rather significant to a good many of us. Certainly, many of us here have been faced with the fact that speeches are not always too well attended, that enthusiasm for school visitation days can be aroused only at long intervals, that school columns in the newspapers reach only a limited section of school patrons. We know, of course, that all these devices are useful in public relations; we know too that new approaches are sorely needed.

There can be little question that the number of school-made films will continue to grow. The interest in motion picture production on the part of educators has developed steadily. The critical question which arises, however, is this: Will the quality of these films keep pace with the increasing production? The answer to this question, it seems to me, hinges in part on the extent to which we make available to the schoolmen information as to techniques and possible filming areas in the field of movie production.

There are several ways by which this spread of information can be accomplished. Conferences such as the Midwestern Forum on Visual Teaching Aids should go far toward stimulating an enthusiasm for producing films. Mr. Heflin's showing at the Midwestern meeting of his color film "Little Black Sambo", done entirely with puppets, left many of us with an urge to try our own puppet films. Second, the reporting in national journals of the experiences of numerous schools in producing movies should help to broaden the horizon of film production. Hardy Finch's article in one of the January issues of *Scholastic* probably gave most of us who read it new ideas for approaches to school-made films.

But I am convinced that we also need a means of direct exchange of both ideas and films. This need was expressed in our Cleveland meeting on Public Relations films a year ago. It was expressed again at the Midwestern Forum. As a matter of fact, all of us who have produced films know the value of such help. It was these expressions of need that encouraged us to circulate the questionnaire on Public Relations Films which many of you answered. Opportunity was provided on the questionnaire for recording title, length, width, whether silent or sound film, content in detail, availability for loan, and the name of the individual to whom correspondence should be directed. Certain other information such as the financing of films was also collected. A total of 214 questionnaires was sent to school men from a list we compiled with the help of the various state Education Associations, the National Council of Teachers of English, the NEA, the Bureau of Educational Research of the Ohio State University, the movie publications, and the suggestions secured from educators previously responding.

Data on 90 films was assembled in the first Public Relations Film Bulletin. Certain facts are outstanding in the information obtained thus far:

1. The large majority of educators who replied were definitely interested in an exchange organization such as that proposed, and (this is the acid test) were willing to loan their own films to other schoolmen.

2. The "Newsreel" type of film (usually a group of school highlights, often unrelated) continues to constitute the great majority of the films produced by schools for public relations purposes. Many of these films have a running time of well over an hour (as high as 2-¼ hours!) and are sometimes literally, as described by the administrators concerned, "all the activities of the school" and "everything from the opening of school in the fall to graduation in the spring." These films are undoubtedly valuable and many of them are of excellent quality.

3. There is a discernible trend, however, toward a more highly "specialized" film whose purpose is to present, in carefully planned detail, some one aspect of school life. Films such as "Cactus Courageous" (an eighth grade class studies cacti), "Early Denver," "T. B. Testing Program," "Nursery School," "Busy Hands," "Introducing Your Library," and "Our Children Learn to Read" are typical of this trend. The emergence of this type of film is highly significant.

4. All films (with the exception of one 8mm. subject) were of the 16mm. type, which is obviously standard. Approximately one film in five made some use of natural color film.

5. Sound films are being used experimentally by some schools. Four such productions were reported in the survey. Notable examples of sound films are the 1600-foot Bay City, Michigan, picture on which a commentator's voice was recorded after the film had been edited, a similar film called "A Day in Defiance High School", and the 400-foot "Croton-on-Hudson" film "School" with sound recorded on the spot.

6. The problem of financing the films has been met in a great variety of ways. It is interesting to note that the agency which financed the largest number of Public Relations Films was the Board of Education. This fact, in itself, is notable as evidence of considerable acceptance of the need for the film medium in making contact with the public. Close second in frequence was the student fund, followed not too closely by the use of admissions. Alumni organizations, teachers clubs, P.T.A., and Chambers of Commerce were other means used.

Now it seems to me that we have reached a point in the development of this whole movement toward film production which is rather critical in its relation to the future of school-made films. Throughout the country, we have a generally favorable attitude toward the idea of film production by schools. The average superintendent or principal will probably agree positively with the statement that the growing production of school films is a fine thing. We in the DVI can take little credit for this favorable attitude but I believe that it is there.

We do have a responsibility, it seems to me, in what comes out of this enthusiasm. Let us suppose a superintendent in Urbanville decides to make a film on his schools. He probably has a man on his faculty who borrowed a movie camera once and took a 50-foot roll of a family picnic. He gets the job. Now the teacher may possibly read a book on camera technique. If he is unusually alert, he may even borrow an exposure meter and jot down a few notes on what he hopes to get. He will probably have little or no concept of a scenario, of types of film, of lighting, or editing. Nor is he particularly concerned about his lack of knowledge. Why should he be? He has no idea of what has been done by other schools. There are no goals for him to reach. He will probably "just shoot." Out of his enthusiasm will come a roll of film, unplanned, unedited, largely uninteresting, and one more superintendent will have come to the conclusion that the possibilities of films are after all severely limited. This sort of thing happening in a thousand Urbanvilles could soon slow up the whole film movement and prevent its most effective growth.

If, on the other hand, the superintendent had known of an exchange such as this, if he had sent to, let us say, Godfrey Elliot for his scenario and film "Busy Hands," would his resulting production have been as mediocre? I don't think so. Certainly, it would be likely to have been better planned; the photography would have had to stand a critical comparison; there would have been an appreciation of the results that can come from school filming.

Perhaps we are painting too vividly the possibility of a film clearing house. Certainly such an organization is not the whole answer. I am convinced, however, that a film exchange can have a useful, and perhaps important, place in the picture.

The Future for School-Made Public Relations Films

GODFREY ELLIOTT
Public Schools,
Oakvale, West Virginia

IT is an obvious fact that the average school patron cannot put together an intelligible picture of the school's general program or specific achievements through his personal visits, even though those visits are both extensive and intensive. Schoolmen have for a great many years, and in varying degrees, tried to bridge the gap between school and community with some means of effective understanding. The newspaper, the radio, school reports, and personal contacts have all been used, and in many cases with extraordinary success.

Quite recently there has been a decided movement toward the use of the motion picture as a public relations medium by the school. The motion picture has the unique ability to tell, in fifteen minutes, a story that might take a year of careful observation to get otherwise.

In our enthusiasm for the school-made public relations film, we must not make the mistake of forgetting that it is but one of a group of media used to foster goodwill, respect, and understanding for the school. It is a supplement, and in many cases a specialized substitute, for the work already being done through other channels. It so happens that it is proving more effective than many other media of contact. It is only fair to say that some of this effectiveness may be due to the novelty of its use at this time. What will happen when this novelty wears off is a question that we may be able to answer here today for ourselves.

The school-made public relations film will bring the school to the people; it will show the human and physical factors that compose it—their objectives, their problems, their failures and their achievements. We must not, however, make the mistake of regarding the public relations film as just another way of "telling" the people about the school; it is, fortunately, a way of "showing." The producer of the public relations film must capitalize upon this unique ability of the motion picture to transport the viewer to another spot and to compress within the space of a few minutes a story that no amount of words could *tell* satisfactorily. If the film is to become, either with or without purpose, a mere restatement of newspaper releases, then it has failed in its mission. Whether it rises above mere telling and makes a successful appeal to its visual minded audience depends upon the skill that goes into its planning and its production.

As indicated by Mr. Hart's remarks on the questionnaire findings, the majority of our present public relations films fall in the category of the all-purpose or the snapshot type of film—that which takes the audience on a walking tour of the school. It is surprising to learn that some of these films are around two hours in length.

It might be well to ask ourselves what result we expect of this all-purpose film. This generalized film can be effctive only in the initial stages of its use. Its chief value is as an attention-getter. When the novelty wears off, then its usefulness is virtually gone, and real work must go into the planning of a production that holds food for thought. The chief effect of such films is to produce in the audience an awareness of the school. It is granted that this is a desirable effect, but we must look further ahead to the presentation and solution of many school problems. One of the least desirable features of our present use of this medium is that many of us are too prone to rest on the production of one or two of the snap-shot-type films, feeling that there is nothing further to be done or that there is nothing else that can be shown.

The school's public relations film of tomorrow will be a specialized vehicle, of 15-20 minutes length, designed to interpret some particular type of work or departmental achievement, to present an organizational problem, or to implement some drive for pupil or teachers welfare.

The entire future of the public relations film is conditioned by a number of IF's:

1. If, we learn to handle production with intelligence and foresight, as well as we now handle it with enthusiasm;
2. If, we learn that the motion picture is an expression of motion, and not of static classroom situations;
3. If, we learn that the production of public relations films is not a one-shot process, but rather a continuous program of planning, producing, and planning;
4. If we learn that the public relations film must be constructed for the average layman, not for professional consumption;
5. If, the public relations film is made the cooperative product of school democracy;
6. If, schools awaken to the opportunities contained in the exchange of films and information;

If we can meet some of these conditions, then there very clearly is work to be done and gratifying results to be achieved. To give us a better appreciation of our work and to present a clearer view of the road ahead, we need to make an honest self-appraisal of the work that we have already done:

1. How much of our work is pure repetition or, at the best, mere mechanical improvement on previous productions?
2. How many of us build a detailed scenario before we start shooting?
3. Are our public relations films constructed with a sequence of ideas and a vocabulary that the audience can appreciate?
4. Does our film require explanation before or after showing?
5. Does it evoke in the audience the thought, "Interesting, but to what purpose?"
6. Does it drive home its point on its first showing to any audience, or must it be seen twice to be understood?
7. What asurance do we have that the story of our film supplies the answer to a question that is in the patron's mind, or that it successfully answers the problems that it suggests?
8. Are we observing good technical standards in photography and editing?

The future of the public relations film depends to a large extent upon whether we shall go our individual ways, content with our local achievements and with our lack of knowledge of the progress being made elsewhere, or whether we are interested enough to establish some informal means through which we can profit by the experience of others.

As we contemplate the possibility of a definite program of action for the improvement of our school public relations films, it might be well for us to analyze some of the benefits that could be achieved through some sort of informal organization. Such a suggestion does not imply the mere standardized election of a group of officers, for such action too often dies with the meeting in which it is born; it does imply our agreement upon some agency through which information can be collected and disseminated, and the additional determination on our part to make it something more than just an annual program. Here, to our way of thinking, are some of the things to which such an organization, however informal, might look:

1. The exchange of films for the purpose of mutual improvement;
2. The exchange of scenarios, story outlines, and story ideas;
3. The exchange of information on such topics as special technical problems arising in school filming, and ways and means of putting the public relations film to its most effective use;
4. The exchange of stock footage for which all of us have ocasional need;
5. To make possible the collection of more complete and more accurate information on our activities which will, in turn, permit better reporting to the group as a whole;
6. To make available a mimeographed or printed "Yearbook" which could summarize the year's activities, describe examples of outstanding work in the field, and answer many other questions for schools just beginning activity in this field.

Local Production of Educational Films

WILLIAM F. KRUSE
Bell and Howell Co., Chicago

IN hundreds of schools motion pictures are being made by educators for direct teaching purposes, as well as for public relations work. (1) The first aim is generally to visualize lesson material in terms of local understanding and experience, and thus to provide the necessary springboard to better understanding of the same subject matter on an expanded field. Almost every "first" film deals in some way with the school in which it is produced, not from any paragon complex, but because of this basic localization urge. (2) The film is quickly recognized as an important, modern and potent means of self-expression, and fortunately for inner-school relationships, the making of a teaching film in a school is so complex that it requires collaboration from several departments if it is to be well made and effectively used. (3) In the process of acquiring experience in movie making, teachers come to recognize the motion picture as a new and independent art form of great importance and power in modern life—the necessity to prepare a scenario for a school has moved many an English teacher or curriculum supervisor to include motion picture writing in the list of forms of written English taught. This leads to thinking in terms of pictures, actions, and emotions, as entities for which writing forms and symbols must be found if the school is to remain abreast of its times. The school borrows from the literary and production techniques of the professional, but in applying these to educational tasks evolves new forms that already modify the work and thought of the professional. (4) There is no more competition between school and professional producer of teaching films than there is between teacher's blackboard and publisher's text book press. Forward-looking professionals extend every aid, in the form of technical equipment and advice, and some offer world-wide distribution channels for school-made teaching films that are of more than local significance, and that meet necessary technical standards.

The Cost of Visual Instruction

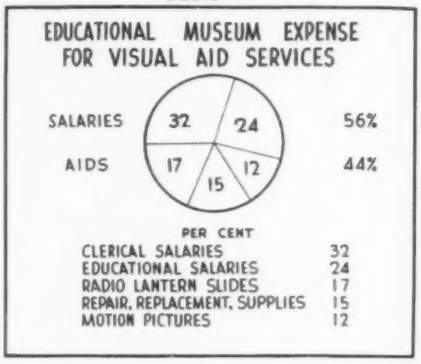
W. M. GREGORY
Director Educational Museum
of the Cleveland Public Schools

THE cost of visual aids should be adjusted to other school expense the same as text books, heat, light, pencils, towels, etc. None should be higher in proportion to its service than others. The purpose of a school is to aid pupils to learn and those items of expense for helpful aids are in the essential class.

Money spent for aids should be distributed so as to have essential aids in different forms for various uses. In Cleveland a summary chart (Chart 1) for ten years shows that 17 per cent of the visual aids budget is spent for radio lantern slides. Under the radio plan each lantern slide is part of a definite lesson as prescribed in the regular curriculum. For motion pictures 12 per cent is spent and this is believed to be fair. The motion picture is still not used as precisely nor as conveniently as the lantern slide. For general upkeep, repair, miscellaneous supplies 15 per cent is allowed. If an aid to learning program is established there should be a definite sum allotted to maintain it and keep it functioning.

All the figures presented are based on certified statements and are reduced to the per pupil basis. This permits comparison between large and small school systems.

Chart I



The per pupil costs shown on Chart 2 include all supplies and salaries. The cost per pupil of various items for an average of ten years is shown on Chart 3. The Cleveland radio lantern slide lessons have been very effective in reaching every class in every school room. This has meant an organization of 153,000 lantern slides and this has cost on an average 3 cents per pupil per year. A motion picture library has been built and an extensive motion picture program is in progress for every school. This has cost 2 cents per pupil per year. For upkeep, repairs, and replacements the cost has been 3 cents per pupil. The cost of all supplies has been seven and one-half cents per pupil annually.

The average cost for *all supplies and visual service* has been *seventeen cents per pupil per year.* Pittsburgh spends one dollar per pupil. Cleveland's annual figure is among the lowest per pupil costs in those school systems which have organized visual aid services.

Chart II

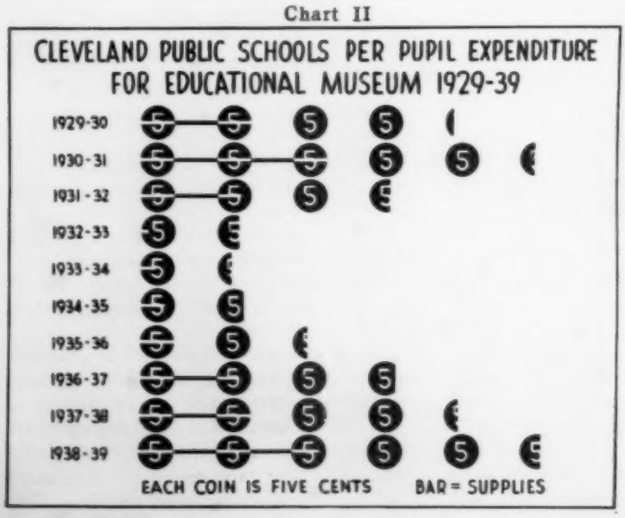
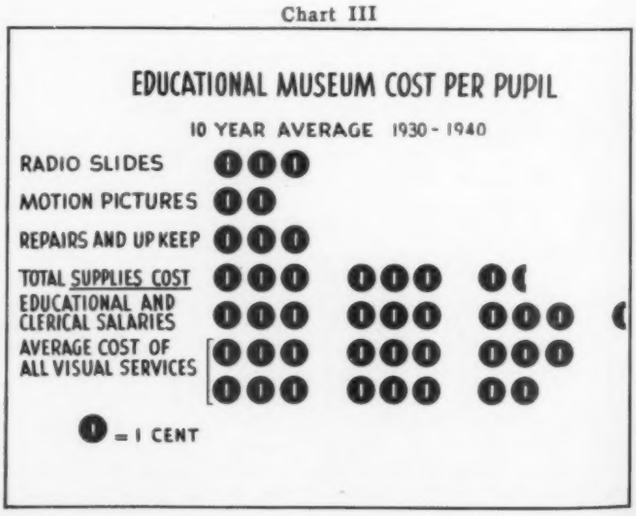


Chart III



Where are We Headed in Visual Instruction?

A Panel Discussion*

EDGAR DALE, Ohio State University, Discussion leader
MRS. CAMILLA BEST, Director of Visual Instruction, New Orleans
MISS ELLA C. CLARK, State Teachers College, Winona, Minnesota
GODFREY M. ELLIOT, Public Schools, Oakvale, West Virginia
WILLIAM G. HART, Director of Visual Education, Dearborn, Michigan
W. GAYLE STARNES, University of Kentucky.

THE discussion was opened by Dr. Dale who suggested that the group look at and appraise the present status of visual instruction before attempting to make any forecast into the future.

The members of the panel described several situations in which motion pictures were used inefficiently. Miss Clark told about a situation in Massachusetts where four class sections of children saw a film in the auditorium. The teachers left the auditorium after they had seen the title of the picture, remarking that they had seen the film once before. Mrs. Best recalled the teacher who, after receiving a one-reel film from the library, asked for three more reels since she had a fifty minute period to fill. Mr. Starnes stated that some teachers who are over-enthusiastic about films in the classroom will use any kind of film regardless of instructional quality. There was some disagreement as to whether these situations were typical or whether they were the exceptions which can probably never be entirely eliminated. Mr. Hart proposed that the task of the persons in supervisory or teacher education fields was certainly to help teachers to use a film purposefully as a part of the total classroom situation. Other materials for enriching instruction must also be directed toward developing the unit or situation that is under consideration.

Mr. Larson, in attempting to define "visual aids" suggested that the meaning of the term would be more clearly presented if we substituted the term "representational aids". This definition would eliminate excursions and graphs but would include motion pictures, still pictures, objects, and models.

Dr. Dale asked the panel for suggestions on how to help teachers use visual materials to greater advantage. Miss Clark suggested that the use of visual materials could be improved by better acquainting administrators with the field so that they could encourage more intelligent use among their teachers. Administrators seldom attend specialized meetings such as those of the Department of Visual Instruction. A solution to this problem might be found by building state programs around providing learning experiences in a general area of living such as "Conservation." In considering one separate area, the use of radio, visual aids, textbooks, and other material could be given their just attention.

Dr. Dale wondered if we might look ahead to a time when nearly all teachers in teacher-training institutions would be competent in the use of visual aids. Mr. Starnes stated that if this were to occur, it might obviate the need for separate courses in visual education.

Dr. Dale suggested that teachers tend to use those methods of teaching which are most convenient to them and which they know best. In order to acquaint the college teachers in Ohio with visual materials, a Visual Education Committee has been formed among the Ohio colleges. The committee aims to get visual materials used in all college courses.

A comment was made by a member of the audience to the effect that the block to the use of visual materials is the course of study which consists of a specific amount of subject matter that is to be covered in a specified number of days. The teacher questions the wisdom of interrupting a routine and taking time to show a film. A suggestion was made that in this case one could appeal to the teacher by suggesting that she could increase her efficiency in teaching factual information by using visual materials.

Such action was opposed by some members of the group who stated that we must not talk about the use of visual aids as such but rather in terms of the purposes of the whole curriculum. We do not want to further entrench outmoded methods by enlivening them with new materials.

The discussion next turned to the question of what supervisors and distributors of materials could do to bring about a more intelligent use of visual materials. Mrs. Best suggested that our distributing departments may be making the intelligent use of materials impossible by allowing only one day for the use of an item. Most of the people who expressed themselves on this issue agreed that if a teacher were permitted to use the materials at least two days, it would make possible the previewing of the material and a considerable study of the teaching manual. Dr. Dale proposed that one answer to the problem of acquainting new teachers with visual materials might be found in arranging for the special showing of a great many teaching films during the university training period. Student council groups might arrange Audio-Visual Institutes where many films might be shown. This is being done at the Ohio State University.

Another problem of distribution raised was the length of time in advance of use which the requisition for materials must be sent to most distributors. For example, when the Russo-Finnish crisis arose, teachers were desirous of quickly getting materials relative to the problem. It was impossible to foresee this need. An order placed for materials a semester in advance of their use cannot provide for illumination on important current affairs.

In the matter of getting materials which are most needed, Mr. Elliot suggested that libraries poll educators and find out what they need and want. In Cleveland, Mr. Gregory explained, committees are selected from various departments to plan and try out programs. If these programs are considered successful, they are duplicated and used in the 130 public schools of the city. Directors of visual education need the cooperation of teachers and experimental classes.

Mr. Jensen thought that film libraries should have courses of study available for each department and then purchase materials that will fit into these courses.

Mrs. Ramsey spoke on the outlook as far as educational museums are concerned. The value in studying concrete objects comes from improving the individual's discrimination and sensitivity toward the objects which he sees. In the future, museums will probably stress the mechanical type of moving exhibit. For example, to help in understanding the process of mining coal, a miniature coal mine might be made available where children can actually see mining machinery in operation.

In closing the meeting, Dr. Dale offerred this summary of the afternoon's discussion.

1. We have assumed that we should take a critical outlook within this group.
2. Many problems relating to visual aids will be solved in terms of revised curriculum practices. A new curriculum outlook is needed for more effective learning.
3. More should be done about the teacher-education problem. It may be possible to organize a series of extension courses in the field. Teachers and college instructors should use visual aids in all their classes.
4. We should do more about excursions, and the use of museums. New types of research are needed to show how visual aids may be most effectively used.
5. There is a need for further solution of the problems of financing and distributing visual aids.

Joint Dinner With the Association of School Film Libraries

Thirty-five members of the Association and the Department were present at the Second-Birthday Dinner of the A S F L, held in the Milner Hotel in St. Louis, February 28th, 1940. The feature of the occasion was the extended report by Fanning Hearon, Executive Secretary of the Association, summarizing in detail the 20-months of the Association's activities.

After presentation of the original organization, purposes and ideals of the Association of School Film Libraries at its founding in June, 1938, Mr. Hearon described its expanding program: Review of original and recent specific aims;

(*Concluded on page* 179)

* Prepared and organized by Roy Wenger of Ohio State University, and Dorothy Blackwell, Educational Museum, St. Louis.

Among Ourselves

Notes from and by the Department of Visual Instruction of the National Education Association.

Conducted by Charles F. Hoban, Jr.
American Council on Education, Washington, D. C.

ANOTHER winter meeting of the DVI has come and gone, and with it should go in this column the human interest story of the people who attended, the speeches and discussions, and the gossip and extra-program sessions that invariably are the colorful, exciting byplay of convention sessions. But the heavy black fog, smoke, coal dust, and soot of St. Louis during several days of pre-convention meetings stirred up a raw throat, brought on a case of flu, and this reporter had to return to Washington and miss the meetings.

Reports of the meetings indicate the programs were carefully planned, well attended, and very worthwhile. In fact, the speeches and discussions were too good—too good to be limited to the relatively small percentage of administrators, supervisors, and teachers who stood most to benefit. Papers on the production of films, school architecture, and other subjects before the meeting were of extremely high calibre, of such a nature that they deserved a larger hearing, a hearing by other groups meeting other places at the same time.

More sharply than ever did this meeting of the Department raise the fundamental question of the purpose of the Department, its membership, its function to education as a whole, and its relation to other departments of the N.E.A., both as represented at the summer and at the winter meetings.

Year after year more or less the same people turn up at the meetings, and each year a new set of new faces appears. But the brunt of the work of the Department falls on the same shoulders, the committee work is done by the same people, and the main speeches are made on familiar subjects. It is never clear whether the Department is intended to be an organization of directors and supervisors of visual instruction, of classroom teachers who are using visual materials and developing effective educational programs through their use, or some combination of the two. Its meetings are held during the sessions of the Association of School Administrators in the winter and the National Education Association in the summer. Semi-annually the cry is raised: "Why doesn't the Department do something?" and always this cry is followed by a six months' hush. When some members of the Department set out to do something, either within or without the Department, there is subtle opposition. A slow and ghastly fear that the function of the Department is being usurped seems to rise like a mist in the night, and the Department freezes into inactivity. Someone mentions that more attention to visual education should be paid on the general programs and on the programs of other departments, but when visual education has a place on the general program, officials of the DVI, hurt to the quick, protest to the N.E.A. in Washington against such impudence.

Yet, throughout the country, educators cry in vain for information on visual education, on sources of materials, on effective ways of setting up departments, on methods of using visual materials in the classroom, on ways of handling problems of illumination, projection, teacher education. College professors, administrators, curriculum supervisors, classroom teachers flock by the hundreds to regional meetings throughout the country. At the third annual meeting of the Southern Audio-Visual Education conference in Atlanta last fall over 700 educators from 12 states were in attendance. The second Midwestern Forum on Visual Teaching Aids in Chicago this month drew a similar number. The New England and New Jersey meetings are well attended. A visual conference was held in Indiana the last of March. One is scheduled at Syracuse for New York educators this summer, and at the University of California the second annual conference of this sort will be held in August. In Pennsylvania and Oklahoma, in Maryland and Minnesota, in Florida and in Washington conferences on visual education bring out hundreds. Why, then, is the DVI so limp when American education was never so receptive to leadership in visual education?

This column is open to an answer. Replies to the query on Dr. John A. Hollinger's catalogue title, "Aids to Perceptual Learning," are coming in to 1013 18th St., N. W., Washington, D. C. They will be summarized next month. Meanwhile, may we have a word or two on the DVI, its function, and its program for the improvement of American education?

MEMBERS of the DVI will be interested in the reception of the American Council on Education's bulletin, *Films on War and American Neutrality*. To date, nearly 600 copies have been sold. There has been no promotion of this document except announcement of its publication through state and national educational journals.

The bulletin was mimeographed, it had a nicely designed cover, but otherwise was published as cheaply as possible. Its reception has been so encouraging that the Council's Motion Picture Project has decided to bring it up to date, and re-issue it in printed form. At the same time it will issue another bulletin, more elaborate, dealing with films and their uses in education for citizenship. The second bulletin will include selected films in the areas of health, employment, housing, crime, and civic government. A third publication of the Project, scheduled for May 1, is the report on the use of films throughout the curriculum of Tower

(*Concluded on page* 169)

Summer Courses in Visual and Audio-Visual Instruction, 1940

Compiled in Co-operation with The Society for Visual Education

The following courses have been reported to date. Figures in parenthesis show credit hours. An additional list will appear in May.

Arizona

University of Arizona, Tucson — June 10-July 13; July 15-Aug. 17
Visual and Auditory Aids in Teaching (2) — Dr. E. L. Larson

California

Hollywood Motion Picture Institute, Hollywood
Warner Bros. Sunset Studios — July 1-Aug. 9
Motion Picture Production Technique with emphasis on 16mm for educational use.
University of California, Berkeley — July 1-Aug. 9
Visual Education (2) — Dr. Edgar Dale
University of Southern California, Los Angeles — June 30-Aug. 8; Aug. 9-Aug. 31
Audio-Visual Education (2) — Dr. Cline M. Koon
Problems and Research (2) — Dr. Cline M. Koon

Canada

University of Saskatchewan, Saskatoon
(Course to be given at Regina) — July 3-Aug. 13
Visual-Audio Education — William G. Hart

Colorado

Colorado Agricultural College, Fort Collins — July 6-July 26
Visual Education (2) — L. E. Aspinwall
Colorado State College of Education, Greeley — June 17-Aug. 9
Visual Aids in Education (3 and 4) — James Finn
University of Colorado, Boulder — June 17-July 19
Education Through Motion Pictures (3) — Lelia Trolinger
Visual Aids (3) — Lelia Trolinger
University of Denver, Denver — June 17-July 19; July 22-Aug. 23
Vitalizing Instruction through Visual Aids (2.5 quarter hours) — Eugene Herrington

Georgia

State College for Women, Milledgeville — July 12-July 21
Visual Instruction (3 1/3) — Ethel Parrish

Illinois

State Normal University, Normal — June 11-Aug. 7
Visual Instruction (3) — R. U. Gooding
University of Chicago, Chicago — June 19-Aug. 23
Auditory and Visual Instruction (3 1/3) — I. Keith Tyler
University of Illinois, Urbana — June 17-Aug. 10
Visual and Auditory Instructional Aids (3) — Louis A. Astell
Western State Teachers College, Macomb — June 10-July 19
Visual Education (4 quarter hours) — Alvin Roberts

Indiana

Ball State Teachers College, Muncie — June 10-July 12; July 15-Aug. 16
Visual Materials in High School Libraries (2) — Evelyn Hoke
Visual Education (4) — Roy Wenger
Butler University, Indianapolis — June 10-Aug. 3
Visual Education S-353 (Beginning) S-354 (Advanced) (3 each) — H. A. Henderson
Indiana University, Bloomington — June 11-Aug. 7
Visual Education (2½) — L. C. Larson

Iowa

Drake University, Des Moines — June 10-Aug. 9
Visual Aids in Education (3) — Victor Mastin
State University, Iowa City — June 10-Aug. 2
Visual Demonstrations (no credit) — L. W. Cochran

Kansas

University of Kansas, Lawrence — June 11-Aug. 7
Visual Instruction in Elementary and Secondary Schools (2) — Fred S. Montgomery

Kentucky

University of Kentucky, Lexington — June 17-July 20
*Motion Pictures in Education (3) — Dr. W. Gayle Starnes
*Problems in Audio-Visual Aids (3) — Dr. W. Gayle Starnes
Second Session — July 22-Aug. 24
Visual Teaching (3) — Louis Clifton
*Organization of the Audio-Visual Aids Program (3) — Dr. W. Gayle Starnes
*Graduate students only.

Louisiana

Louisiana Polytechnic Institute — June 3-Aug. 2
Use of Audio-Visual Aids in The Classroom (3) — R. H. Mount
Southwestern Louisiana Institute, Lafayette — June 10-Aug. 9
Education 390 and 395 (3 hrs. each) — W. C. McClendon

Maine

University of Maine, Orono — July 1-Aug. 9
The Motion Picture in Education (2) — Dr. Paul S. Miller
Visual Education (2) — Dr. Paul S. Miller

Maryland

University of Maryland, College Park — June 24-Aug. 2
Visual Education (2) — Dr. Henry Brechbill

Massachusetts

Harvard University, Cambridge — July 1-Aug. 10
Audio-Visual Aids to Instruction (3) — James R. Brewster

Michigan

Michigan State Normal, Ypsilanti — June 24-Aug. 2
Visual-Auditory Aids in Education (2) — Floyd H. Leib
University of Michigan, Ann Arbor — June 24-Aug. 18
Visual Education—B133s (2) — F. Dean McClusky
Western State Teachers College, Kalamazoo — June 24-Aug. 2
Audio-Visual Education (2) — Ray C. Pellett

Minnesota

State Teachers College, Moorhead — June 10-July 19
Audio-Visual Education (4) — Dr. Arnold M. Christensen
State Teachers College, St. Cloud — June 10-July 26; July 27-Aug. 24
Visual Aids (4) — Roland M. Torgerson

Mississippi

Mississippi State College, State College — June 5-Aug. 15
Practical Application of Visual Aids in Elementary Schools (3) — Sallie B. Newman
University of Mississippi, University — June 5-Aug. 3
Visual Education (3) — Mary Hutchinson

Missouri

St. Louis University, St. Louis — June 24-Aug. 2
Education S159 (3) — William Kottmeyer
University of Missouri, Columbia — June 10-Aug. 2
Problems in Visual Education (2) — W. C. Bicknell
Washington University, St. Louis — June 17-July 26
Visual Instruction (3) — Alma B. Rogers

Montana

Intermountain Union College & Billings Polytechnic Institute, Polytechnic — June 10-July 19
Visual Education (3) — H. K. Moore
State Normal College, Dillon — July 10-Aug. 19
Visual Education (2) — Paul L. Anderson

Nebraska

State Teachers College, Wayne — June 3-Aug. 2
Visual Education (2) — Dr. Griffin

New Hampshire

University of New Hampshire, Durham — July 1-Aug. 9
Sensory Aids in Teaching (3) — Austin L. Olney

New Jersey

State Teachers College, Montclair — July 1-Aug. 10
Multi-sensory Aids (2)

State Normal School, Newark — July 2-Aug. 10
Visual Aids in Education (2) — Fred M. Richmond

State Teachers College, Trenton — July 1-Aug. 10
Radio Education — Robert B. Macdougal

New York

Chautauqua Summer School, Chautauqua — July 8-Aug. 16
Laboratory Course in Visual Aids—
Parts I and II (2 each) — Dr. George O'Donnell

Columbia University, New York City — July 8-Aug. 16
Visual Education—117A (2)
Dr. M. R. Brunstetter, Dr. V. C. Arnspiger

New York University, New York City
Laboratory Course in Visual Aids (4) — John H. Shaver

North Carolina

Appalachian State Teachers College, Boone — June 4-Aug. 23
Visual Instruction (3) — Orby Southard

Normal and Teachers College, Asheville — June 11- July 20
Visual Aids to Instruction (2) — Hazel Gibbony

North Dakota

State Teachers College, Minot — June 10-Aug. 2
Visual Education 258 (2) — Lester Hartnett

Ohio

Kent State University, Kent — June 17-July 26
Using Visual-Audio Aids in Teaching (2) — Argra Ruffer

State University, Bowling Green — June 17-Aug. 9
Audio-Visual Education (3)) — B. L. Pierce
Administration of Audio-Visual Education (3) — B. L. Pierce

Western Reserve University, Cleveland — July 17-July 26
Visual Instruction (3) — William M. Gregory

Oklahoma

University of Oklahoma, Norman
Visual Aids in Education (2) — Boyd Gunning

Oklahoma Agriculture and Mechanical College, Stillwater
June 4-Aug. 3
Elementary Education 302 (2); Education
Administration 502 (2) — Haskell Pruett

Oregon

Oregon State College, Corvallis — June 24-Aug. 2
Construction and Use of Visual Aids (3) — George Eby
Educational Cinematography (3) — George Eby

University of Oregon, Eugene — June 17-July 26
Audio-Visual Aids in Education (3) — L. F. Beck
Laboratory in Audio-Visual Aids (3) — L. F. Beck

Pennsylvania

Duquesne University, Pittsburgh — July 1-Aug. 9
Visual Education (2) — L. A. Pierce

Geneva College, Beaver Falls — July 17-Aug. 16
Visual Education (3) — John S. McIsaac

Juniata College, Huntingdon — June 17-Aug. 16
Visual Education (3) — Paul Rummel

Lehigh University, Bethlehem — July 6-Aug. 13
Visual-Audio Aids (3) — Raymond White

Marywood College, Scranton — June 26-Aug. 6
Visual Aids to Teaching (2) — Sister M. Sylvia
Motion Picture Appreciation (1) — Sister M. Sylvia

Muhlberg College, Allentown — July 1-Aug. 9
Visual Education (3) — John Trainor

Pennsylvania State College, State College
June 11-June 28; July 1-Aug. 9
Laboratory in Visual and other Sensory Aids (1)
Prof. Fred E. Kelly
Visual and other Sensory Aids in Education (2)
Prof. Fred E. Kelly
Main Session — July 1-Aug. 9
Teaching Aids in Homemaking Education (2)
Margaret Reigel
Visual Aids in Teaching Agriculture (3)
Prof. H. S. Brunner

Altoona Branch
Laboratory in Visual and other Sensory Aids (1)
Visual and Other Sensory Aids in Education (2)
May Armour

State Teachers College, California — June 17-July 26
Visual Education (1) — Dr. Everett Alderman

State Teachers College, Clarion — June 17-July 27
Visual Education (1) — Dr. D. D. Peirce

State Teachers College, Indiana — June 19-July 28
Visual Education (2) — Wilber Emmert

State Teachers College, Kutztown — June 24-Aug. 3
Visual Education (1) — Allan F. Bubeck

State Teachers College, Mansfield — June 24-Aug. 3
Visual Education (1 or 3) — Dr. Cyril L. Stout

State Teachers College, Slippery Rock — June 17-July 27
Visual Education (1 and 2) — R. A. Waldron

State Teachers College, West Chester
Visual Education (1) — Thomas J. Heim

Temple University Teachers College, Philadelphia
June 26-Aug. 4
Projection Apparatus (2) — John T. Garman
Illustrative Materials (2) — John T. Garman

University of Pennsylvania, Philadelphia — June 24-Aug. 6
Visual and Sensory Techniques (2) — Dr. J. H. Minnick

University of Pittsburgh, Pittsburgh — July 2-Aug. 9
Visual Education (2) — Herbert T. Olander

Tennessee

George Peabody College for Teachers, Nashville
June 10-Aug. 23
Nature and Use of Audio-Visual Aids (4)
Dr. M. L. Shane
Audio-Visual Aids in Modern Language Teaching (4)
Dr. M. L. Shane

Texas

Abilene Christian College, Abilene — June 4-July 13
Visual Instruction (3) — Dr. G. C. Morlan

East Texas Teachers College, Commerce
June 3-July 15; July 15-Aug. 28
Audio-Visual Instruction (3)
Radio in Education (3)
Dr. W. W. Freeman, Mr. Miller (2nd term)

McMurry College, Abilene — June 11-July 19
Visual Instruction (3) — T. F. Huggins

Sam Houston State College, Huntsville — June 4-July 13
Administration of Audio-Visual Aids (3) — E. C. Waggoner

Sue Ross State Teachers College, Alpine — June 6-Aug. 25
Audio-Visual Education (3) — Dr. Leon Wilber

Texas Technological College, Lubbock — June 6-July 15
Visual Aids in Education (3) — Dr. L. B. Cooper

University of Texas, Austin — June 4-July 15
Research in Visual Education (2) — B. F. Holland
Use of Visual Aids in Teaching (2) — B. F. Holland
Laboratory Course for Visual Instruction (2)
M. M. Watson
Second Session — July 15-Aug. 26
Use of Visual Aids in Education (2 or 3)
Dr. W. W. Freeman

Utah

University of Utah, Salt Lake City — June 10-July 19
Audio-Visual Aids in English and Social Studies in
Junior High Schools (2½)
Audio-Visual Aids in Education (2½)—Elementary course
Audio-Visual Aids in Education (2½)—Advanced course
Dr. A. L. Marble

West Virginia

West Virginia University, Morgantown
Organizing Programs of Audio-Visual Instruction (2)
Audio-Visual Instruction (2) — H. B. Allen

Wisconsin

Central State Teachers College, Stevens Point — June 17-July 26
Audio-Visual Instruction (2 or 3) — Clarence D. Jayne

State Teachers College, Platteville — June 17-July 26
Visual Instruction (2 or 3) — Victor E. Nylin

State Teachers College, River Falls
Visual Instruction (2) — James I. Malott

University of Wisconsin, Madison — June 24-Aug. 2
Education 164 (2) — J. E. Hansen and F. H. Brown

(Continued in May)

(Readers cordially invited to send in additional entries.)

Frogs and Toads – In Hand-Made Lantern Slides

By ANN GALE Art Department, Lindblom High School, Chicago

FROGS and toads may form the basis for an interesting lesson on amphibians in the intermediate grades. The differences between them are seldom understood without some visual aids such as the slides below.

1) Frog eggs are laid in a large mass, while toad eggs are found in long strings.

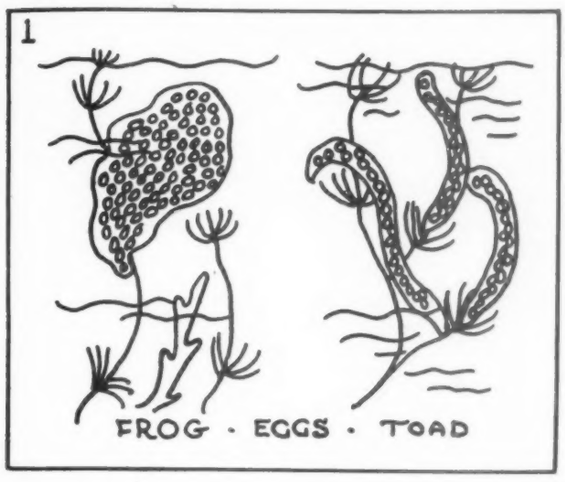
2) The actual development of the frog and toad from the pollywog to the completely adult animal is similar. But the toad is more terrestrial.

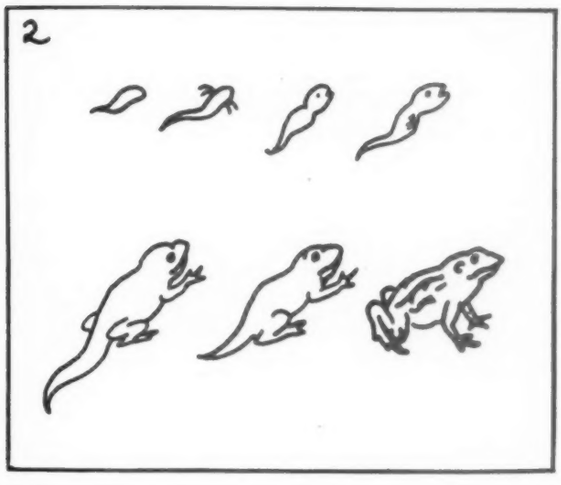
3) The toad is shorter and fatter. His skin has many little bumps which are glands. The frog's skin is smooth.

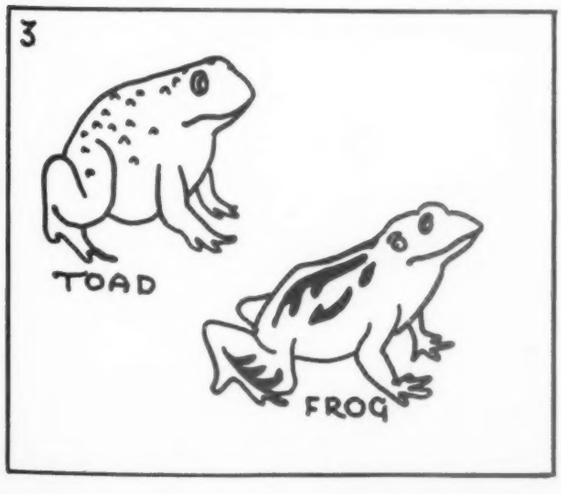
4) The frog has a small rudimentary ear. The toad when singing swells his throat out; so does the bull frog.

5) The toad's tongue is fastened in the front thus making it easy for him to catch insects.

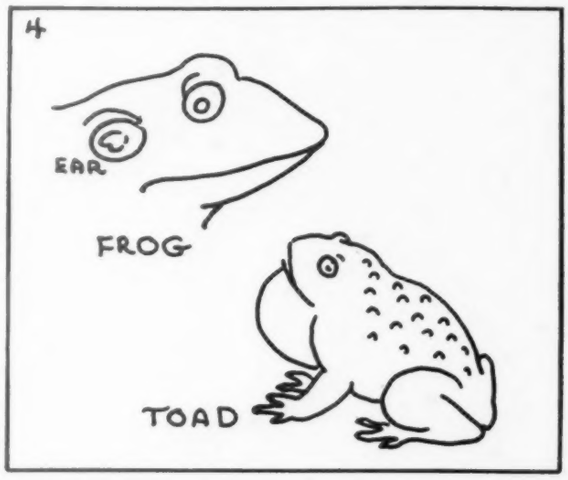
6) In the winter the frog hibernates to the bottom of the pond. The toad just digs himself so far into his burrow that earth fills up the entrance.

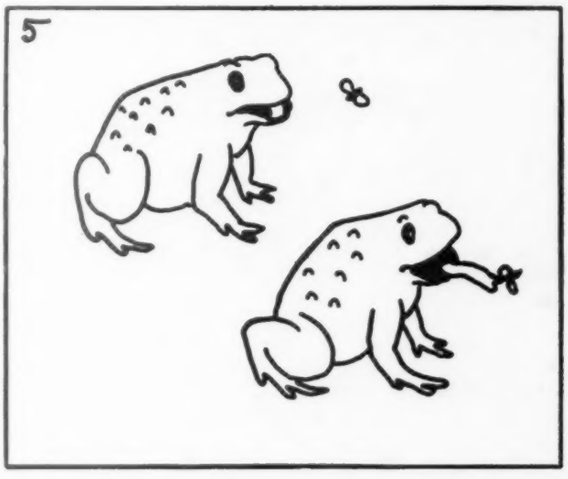


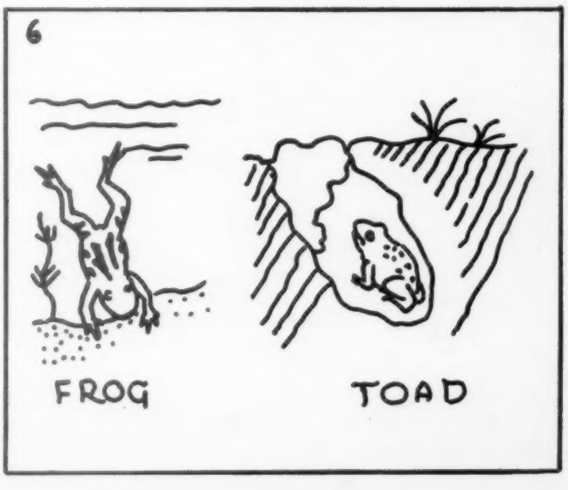




The simplest type of hand-made slide is made by drawing or tracing on finely finished etched glass with ordinary medium lead pencil. Color, by special crayons or inks, enhances the slides greatly. Fine effects are obtained by blending with crayons. About one - third inch margin should be left all around the slide. The slide is readily cleaned with soap or washing powder to receive a new picture.







The Literature in Visual Instruction

A Monthly Digest

Conducted by Etta Schneider

Evaluation and Utilization

Finding the Right Film—Ford L. Lemler—*Scholastic*, 36:5-T, February 26, 1940

The project undertaken at the Bureau of Visual Teaching in the State College of Washington involves two phases: film evaluation by a cooperative evaluation project, and a school visitation program. An evaluation form has been devised which provides not only information about each film and its contents, but also utilization of it. Variance in teacher judgments is not so great as would be expected. From the data already collected it is evident that there is a remarkable correspondence in ratings on films where teaching purposes coincide. Films are rated consistently high for one purpose and consistently low for another. Expression of 'general merit' of films without reference to teaching purpose do vary greatly. There is increasing evidence that the activity of evaluation may prove to be a practical teacher-training device. Teachers need practice and help in the evaluation process.

The Bureau of Visual Teaching is undertaking this year to adjust the many problems of distribution to classroom needs by conferences with teachers, principals and superintendents. Problems of utilization are discussed with teachers. For this purpose a check list has been devised for evaluating the administration and utilization of films in the particular situation being studied. This check list and the visitation are regarded as supervisory, a point of departure highly recommended by the author.

Let the Movie Be Your Guide—Blake Cochran and William H. Hartley — *School Executive*, 59:16 January, 1940

This article summarizes in a new way the available films for educational use. The outline, briefly, is as follows:

a) Social guidance: Recommend use of the film excerpts by the Commission on Human Relations, P.E.A.

b) Occupational guidance: Mention sources of industrial films that might be suitable, indicating the great need for critical judgment in the use of these; sources of instructional films in the field; sources of appropriate theatrical films where characters continually depict—for better or worse — occupational groups; source of the movie shorts recently released by the Teaching Films Custodians.

The criteria recommended for evaluating films for occupational education are:

1. The film must not romanticize the vocation. The common urge to conceal the seamy side of the subject must be suppressed.

2. The nature of the work should be presented in general terms. Technical processes as such are unimportant for orientation.

3. The film should present a long-term view of the vocation. Should be in terms of "life work" rather than a "day at the mills."

4. The social and home life of the worker should be brought into the vocational pattern.

5. The focus should be on the individual, rather than on the machine or device with which he works.

6. The environment in which the work takes place should be included in the film.

7. Technical quality of the film must be high.

Other guides are given with reference to program planning and classroom techniques.

Visual Aids for the Woodworking Shop Robert A. Brenholtz—*Industrial Arts and Vocational Education*, 29:104, March, 1940

A resumé of what the instructor of any type of shopwork may do to make his work of teaching more effective. Some sources of materials and a brief bibliography are listed.

Books vs. Movies, Phonographs and Radios—Donald Bean, University of Chicago Press — *Peabody Journal of Education*, 17:253-60, January, 1940

A stimulating argument to refute the contention of some educators, as expressed by a French publisher, George Duhamel, that since modern civilization is largely due to the spread of knowledge, the movies and radio threaten to wipe out the need for reading to learn.

The author has illustrative evidence to show the value of non-reading material in college classes, high school classes and even with young children in primary grades. He sees much possibility for the use of films and radio with adults and refers to the American Association for Adult Education inquiries into the value of radio and now films. Any devices that seem to promise hope of supplementing existing agencies for improving the critical thinking or the rational processes of mankind, should be put to use. The wise use of non-reading tools may even conceivably increase sounder and wider reading habits and advance the interests of books at the same time. They may even contribute their share toward transforming the face of the globe and overcoming the worst miseries and mistakes of humanity which we see all around us.

Social Effects of Films

Some Educational Aspects of Motion Pictures—Frederic M. Thrasher, editor, *Journal of Educational Sociology*, 13: entire issue, January, 1940

The articles included have rather general appeal and in each case the author describes a project now in operation in the field of motion pictures, both for educational and theatrical consumption. Some of the titles and authors are:

1. "The Motion Picture and Informal Education," by G. L. Freeman

The use of 16 mm. films as a basis for discussion of modern problems at the University College, Northwestern University.

2. "The Film and Education," by Donald Slesinger

A description of the aims and activities of the American Film Center in New York City.

3. "The Motion Picture Academy, a Cooperative in Hollywood," by Donald Gledhill

An attempt to justify the existence of this publicity stunt which professes to be more than it really is (See many current articles by movie critics and movie workers.)

4. "Suitability of Motion Picture Theater Programs to the Needs of the Child," by Claude A. Shull.

Evidence that corrobates the findings of earlier studies, such as the Payne Fund studies, the one by Mitchell, etc. proving that nothing has been done to serve the large number of children going to the movies over the week-end.

5. "The Film Work of the American Museum of Natural History," by Grace Fisher Ramsey.

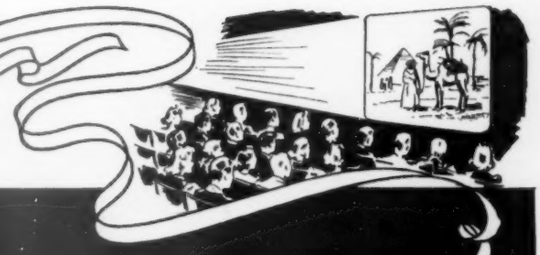
Describes the work of the Museum in distributing educational films.

6. "Education vs. Censorship," by F. M. Thrasher

After a review of some of the conflicting pressure groups engaged in evaluating films, the work of the Metropolitan Motion Picture Council is described. Its work follows closely the philosophy of the National Board of Review, to "applaud the best and ignore the rest." Other audience groups, equally opposed to censorship, would similarly approve of the constructive attitude involved in "applauding the best," but would go further toward reducing the number of poor and socially undesirable films.

(Continued on page 162)

Lessons that LIVE are easy to LEARN!



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7. "Research Projects and Methods"

A summary of current research projects in the field, including a study sponsored by the Carnegie Corporation under the direction of Leo C. Rosten with an illustrious group of educators and sociologists on the advisory board, to make a sociological study of Hollywood; a survey of audience studies; a survey of audio-visual education in Georgia, etc.

Movies and Tolerance—Alice V. Keliher—*American Teacher,* 24:25, January, 1940

Intolerance has one basic cause — fear. Intolerance of others for economic reasons grows apace and, often prejudices arise unconsciously. In thinking about the relation of the motion picture to tolerance we have to bear in mind that different individuals will carry away from a movie different feelings because of unique differences in their personalities and their emotional histories. No single movie will evoke a universally similar response. To those who already disapprove of lynching and to those who are ignorant of its horrors, the film "Fury" becomes a powerful anti-lynching plea, but to those who hate some group or person furiously, the lynching scenes in that film may be met with approval.

This does not mean that there are no effects that might be called 'majority attitudes' that arise from seeing a given picture. "Zola" will inspire many people with a new passion for justice, "Juarez" with a new understanding of democracy. There is an almost majority-minority problem in connection with the reactions to movies which deal with issues relating to our intolerances. The Payne studies revealed how certain films could affect children's attitudes one way or another. As an outlet for our emotions during times of stress, movies can help to reduce intolerant behavior by being an escape.

For guiding persons with a deep-seated, stubborn intolerance the movie excerpts of the Commission on Human Relations have been found helpful. Expert leadership is necessary, however, for leading discussions based on these films and for helping students to apply situations in the film to similar situations in their own lives. Guidance is the key to the most significant use of the motion picture. It must be based on sensitivity on the part of the teacher to the needs of the student and the needs of the larger community of which they are a part.

A stenographic acount of student discussion based on the film, "Bordertown" follows. A significant testimonial to the work of the Commission in promoting discussions based on films was made by a student, as follows: "After I have seen the movie and decided for myself what it means and then have the class discuss it, it stays with me a very long time. The analyzation of the pictures makes one more tolerant and understanding of events which are occurring every day. I am not so quick, to my way of thinking, to condemn a mistake or action for I immediately think there is some reason which caused the action."

Teacher-Training

Seeing Is Believing: Visual Instruction—Colin G. Welles, Milwaukee Vocational School, Wis.—Division of Instruction and Research, 1939. mimeo. 266p.

This is one of the most practical teacher-training courses of study yet published in the field of visual education. Photographs and specific illustrations to teaching situations are abundantly furnished. The objectives of the course include the mastery of mechanical aptitude in handling equipment, acquaintance with the literature in the field, ability to adapt materials to teaching situations. Units are based on a consideration of: the school journey, objects and models, educational films, still pictures, graphic aids; a coordination of all instructional materials; sources, filing and distribution; care and operation of projectors and materials.

The course was designed as an in-service course for teachers at the Milwaukee Vocational School.

Periodicals

Building America — A Photographic Magazine of Modern Problems. Published by the Society for Curriculum Study, Inc. Editor, Frances M. Foster, 425 West 123rd St., New York, N. Y.

If there remains a supervisor of visual instruction who has not added this photographic journal to the materials available for the use of teachers and secondary school students, the last four issues should make this a "must." Now in its fifth year, the project has as its chief purpose to present, by means of photographs, charts, graphs, cartoons and authentic information some of the vital current problems involved in our country. The pictorial material has been cleverly integrated into the text. Volume V, thus far includes:

No. 1 *Our Latin-American Neighbors,* Much little-known information about South America, together with new and recent pictures and charts tell us: a) who are our Latin-American neighbors and what kind of lands do they live in; b) what is their history; c) what are some of the problems our neighbors face; d) what have been our government's relation with them; e) Have governments and people been interested in them; and f) how can we face problems together?

No. 2 *Community Planning.*

No. 3 *Advertising,* a valuable aid in any study of consumer education and propaganda techniques, for advertising is really a means of convincing people.

No. 4 *Arts and the American Craftsman.* A remarkable integration of native arts and crafts, bringing them from the earliest days of our country to the kind of arts and crafts which an industrialized civilization has created. This issue will find much favor in home economics, fine arts, social studies, and industrial arts classes.

Source Materials

Visual Aids—Compiled by Dr. Lili Heimers, New Jersey State Teachers College, Upper Montclair, N. J., 1940. 23 pp. mimeo. Available from State Teachers College Library, Montclair. 50c to teachers living outside of the state.

This is a new and enlarged alphabetical listing of free and inexpensive aids — exhibits, charts, graphs, maps and pictures —available from various agencies and useful in high school and college teaching. Similar to the Bruce Miller listing of such aids, this compilation is arranged alphabetically by topic. Cross-references are included throughout.

Additional information in anv of the subjects, with respect to films and slides and other materials not owned by the College, may be had free upon application as the College maintains a visual aids file much broader than the list published. A list of geographical visual aids is now in preparation.

Motion Pictures and Other Visual Aids for Business Education—Second Edition — compiled by Lawrence Van Horn, High School, Dover, N. J. The Business Education World Service Booklet No. 10, 270 Madison Avenue, New York City. 16 pp.

A good source list of 16mm and 35mm, silent and sound, motion picture films, slides, filmstrips and sound slide-films on various aspects of the business world—banking, thrift, communication, office practice, salesmanship, typewriting, transportation, Vocational Guidance, etc. Information is given as to length of the subjects, contents, sources and prices.

Visual Aids in Safety Education—Prepared by the Safety Education Projects of the Research Division of the National Education Association, 1201 Sixteenth Street, N. W., Washington, D. C. January, 1940, 32 pp. 25 cents.

A valuable bulletin which reviews motion pictures (silent and sound) and sound-slide films on safety issued previous to December 15, 1939. The section on films is classified as follows: A. Street and Highway Safety; B. Fire Prevention; C. Forest Fire Prevention; D. First Aid; E. Driver Training; F. General Safety. The material has been rated by the Safety Film Review Committee on the following points: suitability for school use, amount of objectionable advertising, grade levels for which the film is best suited, and general appeal of the film. Student reactions to a selected number of representative pictures were also obtained. Lists of silent film strips and lantern slides, distributors of safety films and slides, and sources of safety posters, complete the bulletin.

This study was carried out in connection with the 1940 yearbook of the American Association of School Administrators, which is devoted to Safety Education.

(*Concluded on page* 179)

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SCHOOL-MADE MOTION PICTURES

Conducted by HARDY R. FINCH
Head of English
High School, Greenwich, Conn.
Member Committee on Standards for Motion Pictures and Newspapers of the National Council of Teachers of English

ONE of the readers of this column has asked, "Will your department report school-made films besides those of the 'newsreel' and school activity type?" The answer to this question is "Yes."

At present, your department editor has reports on films dealing with safety, health, library use, typewriting, literature, social studies, science, psychology, manners, guidance, and many other subjects. He plans to present this information in future issues of EDUCATIONAL SCREEN. If a sufficient number of readers indicate interest in particular types of films, preference will be given to them in the planning of the column.

The "newsreel" and activity films that follow are on 16 mm. film and are black and white, unless otherwise specified.

CALIFORNIA—The extensive film making program of the Oakland Public Schools is indicated by the following list of activity films: *Arithmetic in the Oakland Public Schools* (400 feet), *Fifth Grade at Work* (400), *Keeping Step with Modern Youth* (800), *Kindergarten at work* (400), *Physical Education* (800), and *Reading in the Oakland Public Schools* (400).

COLORADO

R. W. Ullemeyer of the Alcott School, Denver, announces that his school group owns a 100-foot film of its dog show.

ILLINOIS

Administrators of The Chicago Normal College, the Parker High School, and the Parker Practice School, Chicago and current student activities have been recorded on 1000 feet of 35 mm. film. In addition to this, two 300-foot 16mm. films have been made: *Spring Festival* and *Men at Normal*, Miss Sophie C. Camenisch indicates.

A color film of the characteristic activities of each group in the Greeley School, Winnetka, shows such special features as health work, mental hygiene, and psychological testing, according to Donald Cawelti. (400 feet).

MINNESOTA

A film used as a commencement program is described by Thomas S. O'Neill, principal of the Brookston High School, in March, 1940, SECONDARY EDUCATION. Pictures of the school, grounds, classes, and senior class members were included in 200 feet of film (8mm.).

A film showing the work of the Duluth Schools from kindergarten through junior college has many unusual shots, such as the kindergarten band, first grade reading, model village made by a history class, art work, marionettes, printing, junior college surveying, etc. At the beginning and at the end of the film Superintendent H. H. Eelkema appears to be giving the film as a report to the Board of Education.

OHIO

"The Anna Schools" was the subject of a film (700 feet) made by the teachers of the Anna, Ohio school system, Mr. George Rilling states.

WASHINGTON

An all-color film of the dress rehearsal of a school operetta "Katinka" has been completed by the Movie Club of Roosevelt High School, Seattle, Arthur Rarig, head of the English Department, writes (300 feet).

Below is the first half of the "News Reels" film group, from the questionnaire survey by William G. Hart, which located over 90 Public Relations Films made by schools. The March issue carried the "Specialized Subjects"; May issue will give the balance of the "News Reels." (16mm footage given after title. All are black and white unless otherwise specified. Many available for free loan.)

1. *Niles School Days* (1300) Scenes of Board of Education; classes from kindergarten to twelfth grade; sports. Loan. George Balas, Director of Visual Education, Central High School, Niles, Mich.

2. *Pontotoc County Schools* (300) Loan. N. A. Stall, County Supt. of Schools, Ada, Okla.

3. *Royal Oak Public Schools* (3500) Activities of all the schools, with emphasis on special projects. N. J. Quickstad, Supt. of Schools, Royal Oak, Mich.

4. *Glimpses of Agawam* High School (700) Presents all the activities in the school. Loan. A. M. Hadley, Head Dept. of Science, High School, Agawam, Mass.

5. *A Day in the Euclid Schools* (1200) Typical activities in all the schools, kindergarten through high school. Loan. H. L. Shibler, Prin. Central School, Euclid, O. (Announced in February issue.)

6. *School Life* (1000) School activities; general run of school work. Loan. D. W. McCount, Prin. High School, Bronwell, W. Va.

7. *A Day at School* (400) Ordinary classes and school activities; football and cross country track practices. Loan. Dean Challis, High School, Dearborn, Mich.

8. *Greenville Schools at Work* (1600) Intimate shots of class projects and work from kindergarten through high school. Loan. Vern E. Mabie, Supt. of Schools, Greenville, Mich.

9. *Year in Review* (800) Views of classrooms and students; sports, school circus, dramatics, other activities. Loan. W. R. Climinson, Prin. High Schools, Port Huron, Mich.

10. *A Day at McKinley* (200) Classes, elementary through junior high; extra-curricular; safety patrol. George A. Stracke, Public Schools, Flint, Mich.

11. *A Visit to Lane Tech* (400) All shops, athletics, social functions, classroom work, cafeteria; emphasis on technical work. Loan. A. P. Heflin, Lane Tech. High School, Chicago.

12. *South Milwaukee High* (700) Sports, faculty leaving school, honor society. Loan. R. Shreve, Director of Visual Education, High School, South Milwaukee, Wis.

13. 800 feet of curricular and extra-curricular activities, social functions, students enrolling and life in the dormitories. James S. Kinder, Director Film Service, Penna. College for Women, Pittsburgh, Pa.

14. *Escambia Children and Their Schools* (800) Escambia County school buildings; outstanding work by different grades; chorus, vocational and industrial arts. Loan. W. O. Barrow, Prin. W. S. Neal High School, Brewton, Ala.

15. *A Modern High School at Work* (2000) Everything from opening of school in fall to graduation in spring. S. H. Lyttle, Prin. High School, Saginaw, Mich.

16. *Fairport Public School Activities* (400) May Day festivities, classroom activities, fire drill, passing between classes, playground, sports; black and white and color. R. A. Greig, Supt. Public School, Fairport Harbor, O.

17. *Child Growth in the Elementary School* (1000) Traces child growth from physical examination given at baby clinic to promotion into high school. Loan. Arnold Gregory, Prin. Wm. Raupp School, Lincoln Park, Mich.

18. *School Activities* (3000) Classroom and building activities. Norris G. Wiltse, Public Schools, Ypsilanti, Mich.

19. *Today's Activities in the Detroit Public Schools* —W. W. Whittinghill, Director of Visual Education, Public Schools, Detroit, Mich.

20. *The Schools at Work* (3000) Activities from kindergarten to twelfth grade. Not titled—designed for use with P. A. system. Loan. F. W. Frostic, Supt. Public Schools, Wyandotte, Mich.

21. *Education in North Muskegon* (300) Views of the various classrooms showing some of the activities. Loan. J. E. Pease, Supt. Public Schools, N. Muskegon, Mich.

22. *Glimpses of School Life in Battle Creek* (200) Field trip to a farm with follow-up; mathematics, science, visual aids. Loan. Eldon C. Geyer, Supt. Public Schools, Battle Creek, Mich.

23. *Life Begins at School* (1200) Cross section of John Hay High School—its curriculum offering many activities. Loan. Anthony L. Cope, John Hay High School, Cleveland, O.

24. *Our School* (400) Physical education demonstration, practical arts education; the first week of school. Loan. Landis R. Klinger, Northwest Junior High School, Reading, Pa.

25. *History of Wilbur Wright School* (400) Various school activities; classroom, Christmas, full day, magazine selling campaign; black and white, and color. Loan. J. R. Goodrich, Prin. Wilbur Wright Junior High School, Dayton, O.

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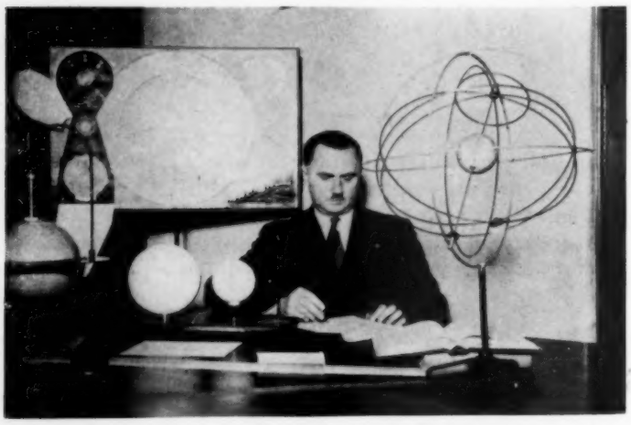
In and for the Classroom

Conducted by Wilber Emmert
Director Visual Education, State Teachers College, Indiana, Pa.

Models for Enrichment

RECENT experiences in supervising elementary science, teaching a survey course in physical science, as well as conducting a course in descriptive astronomy, have brought forceably to my mind the necessity of making and using simple mechanical aids to assist the pupils in gaining correct understandings of some of the many abstract concepts encountered in courses which deal with terrestrial and celestial re-



The writer with a few aids for astronomy teaching

lationships. This article proposes to indicate how some of the teacher-pupil constructed mechanical aids and commercially made devices can provide lasting memory images and assist in overcoming some of the limitations to learning commonly encountered in the study of the topics mentioned.

An underlying concept of perceptual learning is the principle that sensory experiences are necessary for mental activities. Sensory experiences properly conditioned result in vivid and lasting memory images. These memory images constitute the building blocks for reflective and constructive thinking. Hence, it is recognized that we can *think* only in terms of our past experiences; and that we can *imagine* only with the elements of our past experiences. If the visual-sensory aids used in the classroom provide the proper degree of reality, are within the range of the pupil's past experiences, fit in with the objectives of the particular lesson, and are within the range of the intellectual maturity of the learner, they will assist in making the abstractions encountered meaningful, and provide memory images for intellectual advancement.

Scientists have conceived a whole host of "imaginary" lines, circles, and angles to indicate the relations existing on the terrestrial sphere and the celestial globe. "The *equator* is an imaginary line passing around the earth midway between the poles, and at right angles to the earth's axis." "The *meridian* is an imaginary line joining ....." "The *horizon* is an imaginary line ....." The globes ,maps, charts, etc., commonly used in geography work assist in making these abstract concepts meaningful for the problems of the terrestrial sphere. However, the similar astronomical coordinates in the celestial sphere tax the conception of the abstract circles of the celestial sphere. imagination of the pupils. And for most minds a concrete model is a necessary aid in attaining an adequate conception of the abstract circles of the celestial sphere.

The Coelosphere

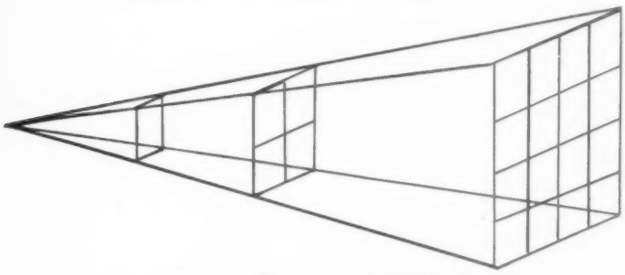
The Coelosphere consists of systems of circles to illustrate the astronomical coordinates of the three systems of circles of the celestial sphere recognized in astronomical work, namely the *horizon system*, the *equator system*, and *the ecliptic system*. Commercially made, as in the accompanying illustration, the coelosphere sells for $16.00. However such a device can be made by the pupils with no outlay of money, by merely using materials right at hand. It looks complicated, but it is really easy to make. A tennis ball can be used to represent the earth (equator, ecliptic, meridians, and parallels of latitude marked on with ink), while wire coat hangers can be conveniently shaped to form the circles of the individual systems. Excess wire of the hooks can be snipped off with a pair of pliers. One or two hooks can be straightened out to make the pedestal for the apparatus. This device shows clearly the inter-relation of the different systems of coordinates, as well as their relation to the earth. This is one of the most important bits of apparatus the school can secure to assist the pupils in gaining clear understandings of the problems connected with the circles of the celestial sphere. The meaning of the concepts embodied in the equinoxes, the celestial equator, the ecliptic, right ascension, declination, etc., can be easily and effectively demonstrated. Prior to the use of the composite model, the pupils should have the opportunity to construct and use individual models

The Coelosphere

of the three systems of circles. The accompanying sketch indicates how three coat hangers or hoops placed at right angles, and with a smaller circle parallel with the horizon, portray the chief circles of the horizon system. The labels can conveniently be attached with scotch tape, now universally used in schools. This construction work provides sensory experience of great value to the pupils.

The Inverse Squares Model

The "Inverse Squares Law" is fundamental to much of the physical science work. Newton's Law of Universal Gravitation states ".....the attrac-



Inverse Squares illustration

tion between the bodies varies inversely as the square of the distance between their centers." The inverse law holds for the intensity of illumination, etc. A model can easily be made of wire, as shown in the accompanying illustration, with the squares properly placed to produce areas in the ratio of 1, 4, and 16. Pupils can readily make such a model of wire. A fundamental thing about the use of these models is that the three-dimension relationship is more easily understood and gives a clearer insight than can be gained from the blackboard drawing of the textbook illustration.

Comparative Size Model

Abstract numbers in terms of thousands and millions of miles often convey very little meaning to children. If comparisons are made these same facts may take on worth while meaning. The pupils can make comparative size models for: the planets; some of the stars; the moon and the earth.

The ten-cent store abounds in glass headed pins, beads, balls, and marbles of various sizes. After some calculations with the diameters of the various heavenly bodies, it would be possible to secure some of the inexpensive materials to be used in constructing the comparative size models mentioned above. This work should result in meaningful understandings of the size relationships.

Altitude-Latitude Calculator

Since the axis of the earth points toward the north star, if one were at the north pole the north star would be directly overhead, or at an angle of 90° with the surface of the earth. If one were at the equator and pointed towards the north star, he would have to point parallel with the axis of the earth at an angle of 0°. Hence as one goes north from the equator he must elevate his sights one degree for every degree traveled northward to be able to see the north star. This brings the fundamental law, "The altitude of the pole star equals the latitude of the place." Pupils can construct "altitude-latitude calculators" by tacking or bolting two

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PHYSICAL SCIENCES		CHILD PSYCHOLOGY	13 films
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laths together, marking off a quadrant of a circle and attaching it to the lath assembly, or by using a protractor to measure the angle of elevation of one arm after sighting at the north star. To use the calculator, rest one of the two laths on a surface parallel to the earth's surface, then sight along the other arm and elevate it until it is in line with the north star. Measure the angle of elevation, and this will be the same as the latitude of the place, or the number of degrees from the equator. Hence it is easy for the pupils themselves to measure the latitude of their particular locality. They can know without "remembering what the book says".

Some other things which might be constructed are: a sun dial, a universal sun dial, refraction and reflection of light apparatus, astrolabe, falling body apparatus, illuminated planetarium, a telescope, hour glass, equation of time device, barometer, star charts, zodiac chart, star finder, precession of the equinox apparatus, eclipse of sun and of moon, angle of sun's rays apparatus, day and night device, season indicator.

Construction work combined with the use of commercially made apparatus and personal observations should result in more meaningful instruction than mere verbal treatment of the subject. Children should not be denied these worthwhile experiences in their educational advancement. W. E.

Selecting Projection Equipment

(*Concluded from page* 142)

who is to operate the machine to thread and run all of the projectors in order to better understand the equipment and have a better basis of comparison. If it is a sound projector that is under consideration, check upon these items: Portability, ease of setting up, sound reproduction, tone control, accessibility of working parts, ease of cleaning, wattage of amplifier, type of speaker, whether easy or hard on films, gadgets, etc. In general, the simpler the machine, the less trouble a person will have. In small schools the demonstration of several projectors may be impossible, but with the cooperation of the county superintendent of schools, several small schools may join in the project and secure such demonstrations. Practically every good machine has certain features which are unique. When these are studied at the same time, the particular features which make one machine better than another for your school are determined. What makes one machine best for one school does not necessarily make it best for another. Beware of gadgets which will not function satisfactorily in the classroom, and are not needed if they do function well. Demonstrations clear up these difficulties.

In addition to these specific cautions, may we add a few general suggestions! Dealing with an *established business firm* is far more satisfactory than dealing with itinerant salesmen, or with some local man who may have the privilege of ordering a projector for you at wholesale prices, but who knows nothing about the equipment and can offer no help when difficulties arise. Itinerant salesmen who represent a company in a distant state may offer big things but usually there is no

recourse when the equipment fails to measure up to the statements concerning it. Many schools have found to their sorrow that promises mean little when the salesman is a thousand miles away and the firm he represents is still farther. Usually such men are high-powered salesmen, and they get the signature on the dotted line plus the check before they leave. Then the school can whistle for service or replacements as they are needed. An established firm will see that the equipment is satisfactory—its reputation and prosperity depends upon its living up to its promises; and frequently such a firm will loan a school a projector at no cost if anything goes wrong that necessitates repairs or replacements that take more than a week's withdrawal of the projector from service. Such service is worth far more than the few dollars saved on a doubtful purchase.

Equipment does not guarantee a successful visual instruction program for any school—in the past, too often that has been a false assumption; but fortunately that attitude is passing. However, good equipment is essential to a successful program of visual aids. Much money has been wasted by schools because the official in charge did not investigate possibilities of equipment before the purchase of projection machines has been made. A small amount of research before the purchase of a projector returns large dividends. Do not let yourself be one of those who buy unsuitable, and impractical projectors because you did not take the trouble to investigate for yourself the relative value and cost of machines. This paper is not meant to minimize the value of good salesmen for good products—the field of visual instruction owes such men a debt that it probably never can repay; but be sure that the men from whom you buy your equipment represent reliable firms, dealing with reliable equipment. Then you will have the foundation on which to build a successful visual instruction program.

Among Ourselves

(*Concluded from page* 156)

Hill School, Wilmington, Delaware. Tower Hill was one of the centers cooperating with the Council in its motion picture evaluation program.

IT IS announced here in Washington that Pare Lorentz' new film *Fight for Life* is out of the cutting room, and into the theatres. It is a story of the battle to save mothers and to deliver live babies under slum conditions. If it is half as good as Lorentz' two other films, schools will want it. The question is, will they get it, when, under what conditions, and for how long? Address your requests to the U. S. Film Service, Office of Education, Federal Security Agency, Washington, D. C. Most other film producing agencies of the government provide for the sale of films to schools at print costs, which average about $10 a 400-foot reel per 16-mm. sound print. A 16-mm. print of a six-reel film should cost about $60. Since the U. S. Film Service is rumored to have few if any funds for 16 mm distribution, an offer by schools to pay print cost should remedy this difficulty.

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News an

Activities at Boston University

Boston University has long been a leader in New England visual education, serving schools and colleges as far away as New York State. Last year, 16 colleges and 120 school systems availed themselves of the University's Division of Teaching Aids. Addition of a new service has been announced by Professor Abraham Krasker, able director of the Division. Believing that radio recordings will open a new field in teaching aids, transcriptions of educational programs will be catalogued and filed for use by students and teachers.

At present, 300,000 feet of silent and sound films are on file in the department's storeroom. These are filed horizontally in specially built shelves planned so that the numbers and subject may be read easily. The films are collected in "libraries," each containing a complete set of reels on a given subject. Five new libraries of educational motion pictures have been established—two on Social Science, one each on Science, Sports, Guidance and Occupations. The subjects were chosen from the "Catalogue of Films for Classroom Use," the Hollywood shorts selected by the Mark May Committee and distributed by Teaching Films Custodians.

The latest innovation at Boston University School of Education this semester is the "School of the Screen," which offers programs in Adult Education. Nine films are shown each week on a given subject. In the course which lasts ten weeks the students see ninety films, providing a very complete education in the subject. Several courses on visual education are conducted each semester by Professor Krasker.

Florida Progress

A library of loan films is maintained and a Co-operative Film Library is sponsored by the Department of Visual Instruction of the University of Florida General Extension Division. The film service is much used, since the number of school-owned projectors has been rapidly and consistently growing during the last several years, according to Bernice Ashburn Mims, director of the Department. It is felt that the greatest need now is for more efficient instructional methods. Teachers are asking for help in initiating film programs and in order to assist them, the Division is preparing a collection of activity unity outlines and teaching plans based on films and other visual aids. These outlines have been prepared and successfully used by Florida teachers, and while there is no thought of offering the collection as a set of examples to be followed for the best results, it is hoped that it may offer helpful suggestions to inexperienced teachers.

The Florida Education Association maintains a standing committee or section on visual education. The group consists of about three hundred members, and its annual meetings are largely attended. Committees of the section have been at work on studies of motion picture appreciation courses, of

Notes

films adapted to secondary school subject matter fields, of school made films, of teaching methods with films, and on school use of radio.

Indiana Audio-Visual Conference

An Audio-Visual Educational Conference, sponsored by Indiana University Extension Division, took place in Bloomington, March 30. An address on "Teacher Training Responsibilities" by Mr. V. C. Arnspiger opened the morning session, followed by a panel discussion on film distribution problems. Mr. J. E. Hansen was the speaker at the luncheon meeting. The first part of the afternoon was devoted to informal group discussions of school-made visual aids, radio and recordings, the school museum, and distribution of audio-visual materials. A talk on "Comparative Visual Education" by Dean H. L. Smith, School of Education, Indiana University, concluded the meeting.

Michigan Film Library Grows

The Michigan Cooperative Film Library, conducted by the University of Michigan Extension Service, have made arrangements with the recently formed Teaching Film Custodians of New York City, whereby from fifty to a hundred Hollywood-produced short subjects will be made available in 16 mm sound to its 185 members at no additional cost.

Membership in the cooperative film project is open to any school, college, or university, according to Dr. C. A. Fisher, director of the Service. "A $50.00 membership fee for the first year, and $45.00 for the second, entitles the members to $65.00 worth of films at the non-member rental rate, and a reduced rental on orders in excess of that amount. There is a $1.00 rental fee for the first day's use of sound films, and $.75 for silents."

The Michigan Secondary School Principals' Association and Michigan school superintendents appoint committees to act in an advisory capacity to the University in the purchase of films and in shaping policies of the Library. There are now 450 different subjects in the library, and a total of more than 700 films.

—(*Mich. Ed. Jl.*)

New Jersey Visual Educators Meet

The New Jersey Visual Education Association is having a busy semester. On February 8 the third Northern New Jersey Branch of the Association held a Conference and Dinner Meeting in Englewood. Extensive conferences were conducted in Administration, Secondary Education, Education for Business, and Elementary Education as related to visual education, each directed by a large panel of educators. At the dinner which followed Dr. G. W. Leman, president of the Visual Education Association, introduced the officers and speakers. Another dinner meeting was held by the Association at Maplewood on March 7, also presided over by Dr. Leman.

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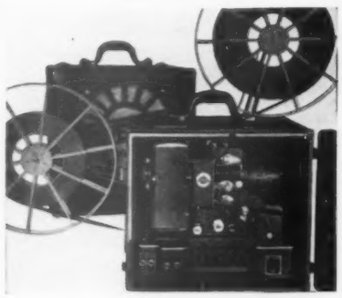

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Institute of Cinematography Formed in Canada

Last summer the University of British Columbia offered a short course on the production, history, appreciation and use of motion pictures, with Dr. Boris T. Morkovin, head of the Department of Cinematography, University of Southern California, as special lecturer. At the conclusion of the lectures, a meeting was held with the object of forming an organization to continue the study of motion pictures, particularly the production and educational use of 16mm films. The British Columbia Institute of Cinematography was inaugurated for this purpose.

Committees were formed to carry out the objectives. Regular monthly meetings are held for the presentation of special lecturers and for the coordination and study of the accomplishments of committees working on production, education, etc. The production unit is now producing a traffic safety film in 16mm entitled "You Bet Your Life."

Membership is open to all who wish to take an active interest in the work of the Institute. The fee is $2.00 a year. A regular bulletin is issued every month to members, keeping them informed on activities of the association and on items of special interest. For further details, write to Mr. L. W. Chatwin, Secretary-General, Institute of Cinematography, University of British Columbia, Vancouver.

Electrical Transcriptions

Selected programs of the "Cavalcade of America" series will soon be available through the Association of School Film Libraries, Inc., 9 Rockefeller Plaza, New York City.

Another significant educational radio series of 24 recordings, "Americans All—Immigrants All," may be purchased through the United States Office of Education, Educational Radio Script Exchange, Washington, D. C. "These recordings present specific information concerning the part which has been played by the various culture groups in American life and dramatize their triumphs and achievements." Each is a half-hour program.

Texas Departments Producing Films

The State Health Department, State Game, Fish & Oyster Commission, State Department of Public Safety, and Traffic Division of State Highway Department of Texas, are producing educational films.

An Experiment in General Science

(*Concluded from page* 146)

4. Soft water is water that does not contain .....
5. Water for drinking purposes can be safely purified in the home by .....
6. Hardness of water is due to .....
7. Spraying water into the air to purify it is known as .....
8. ..... are added to settle the suspended matter in water
9. Water is composed of two elements ..... and .....
10. To distribute water ..... is needed.
11. Borax and washing soda are said to ..... water.
12. For homes without sewage systems, the ..... is the best disposal method.
13. A chemical which may be added to water to make materials settle faster is .....
14. Cities which obtain their water supply from distant mountain streams and lakes build ..... to carry the water.
15. To prevent the entrance of sewage gases into the house ..... are installed in drainage systems.

III. *Multiple Choice*

Directions: Each question will consist of several answers. For each question you are to decide which is the best answer, then write the number corresponding to this answer in the space to the left of the number.

..... 1. The process of purification when air is mixed with impure water is known as (1) filtration (2) aeration (3) pollution (4) distillation.
..... 2. People in the country have as their most common source of water (1) wells (2) creeks (3) city-water (4) lake.
..... 3. Sterilization of water with (1) salt (2) chlorine (3) copper sulfate is used to kill bacteria.
..... 4. Water traps in sinks keep (1) rats (2) mosquitoes (3) bad odor out of the house.
..... 5. Most harmful thing found in water is (1) bacteria (2) wood (3) sand.
..... 6. Septic tanks are used to (1) store water (2) purify water (3) purify sewage (4) filter water.
..... 7. Shallow wells (1) should be located so that all drainage is away from the well (2) furnishes pure water (3) are easier to get water from.
..... 8. Well water is (1) hard (2) soft (3) medicinal.
..... 9. (1) Filtration (2) distillation (3) pollution will remove all disease germs from water
.....10. Cities should obtain their water supply (1) upstream (2) downstream from where they empty their sewage.
.....11. The disease most commonly spread by drinking water is (1) diphtheria (2) smallpox (3) mumps (4) typhoid fever.
.....12. Wells from which water flows without pumping are called (1) cisterns (2) artesian (3) diffused (4) reservoirs.

IV. *True and False*

Directions: Write the letter T or F on the line *before* the number to indicate whether the statement is true or false.

..... 1. Water can be purified by filtration.
..... 2. A chemical combination of hydrogen and oxygen will make water.
..... 3. Pure water has no color or odor.
..... 4. Hard water contains mineral matter.
..... 5. Typhoid fever is not spread by water containing disease germs.
..... 6. Sand should not be used for filtering water.
..... 7. The location of a city does not determine how the water supply shall be secured.
..... 8. It is dangerous to build a cesspool near a well.
..... 9. Disposing of sewage is not a problem of inland cities.
.....10. Boiling will kill most disease-producing bacteria present in impure water.
.....11. Drinking water is treated with chlorine to improve the taste.

.....12. Reservoirs in water-supply systems are placed on high hills in order to secure clear atmosphere.

Results from the Second Procedure

The Tests for Unit B were scored in the same way as for Unit A, marking only the correct items on the tests. The scores for the unit tests were condensed into tables (omitted here) to show the comparison of the X-and C-Groups in the pre-test and the post-test for Unit B. The highest possible score was 50. To summarize:

The post-test means of the X-and C-Groups were as follows:

X-Group	32.15
C-Group	30.05
	2.10

The mean of the gains of the X-and C-Groups were as follows:

X-Group	16.42
C-Group	14.00
	2.42

By the same procedure as was followed for Unit A, it was determined that in Unit B tests the X-Group will surpass the C-Group 80.23 times out of 100; and in Unit B gains the X-Group will surpass the C-Group 91.15 times out of 100.

Difference Between the X-Groups for Unit A and Unit B

Unit A	Critical ratio	Chances out of 100 that the X-Group will be superior
Post-test	1.63	94.52
Gain	2.93	99.81

Unit B	Critical ratio	Chances out of 100 that the X-Group will be superior
Post-test	.85	80.23
Gain	1.33	91.15

Conclusions

The X-Groups for both Unit A and Unit B show definite improvement over the C-Groups. The X-Group for Unit A shows a much greater improvement over the C-Group than the X-Group of Unit B shows over the C-Group. This difference is probably due to the fact that more visual aids were available for Unit A than for Unit B, yet what visual aids were shown in Unit B enhanced definitely the pupils knowledge for the unit.

The purpose of educational films and slides is to give the student clear perception of objects which are beyond his immediate experience and which are necessary to extend his knowledge of the physical world. They are designed to give the basic experience which may then be elaborated by means of language. This experiment shows convincingly that they are effective means of giving the basic experience. When they are deliberately planned and consciously used to serve this purpose they should make the student better acquainted with the world in which he lives, and stimulate him to better thinking.

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CALIFORNIA STRAIGHT AHEAD
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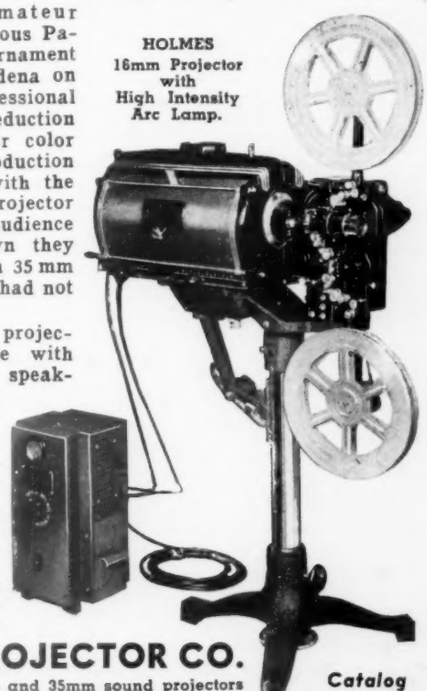

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The Film Estimates

Being the Combined Judgments of a National Committee on Current Theatrical Films
(A) Discriminating Adults (Y) Youth (C) Children
Date Estimate was made is shown on each film.

Adventure in Diamonds (Brent, Isa Miranda) (Para) Fast-moving, credible adventure yarn. Detective after diamond smugglers tries to protect girl accomplice of crooks and finally enlists her aid against murderous gang. Interesting shots of diamond mining. Class B but entertaining. 4-9-40
(A) Fair of kind (Y) Doubtful ethics (C) No

Bill of Divorcement, A (Menjou, O'Hara, Bainter, Whitty) (RKO) Famous play absorbingly filmed. Daughter, realizing insanity taint, heroically leaves fiance to care for father, formerly insane, and to free mother to marry man she loves. Keen psychological interpretations. Impressively photographed and directed. 3-12-40
(A) **Excellent** (Y) Somber (C) No

Birth of a Nation (Lillian Gish, H. B. Walthall) D. W. Griffith's Civil War masterpiece, in original form with irregular musical background and mob sounds appropriate to the old film. Acting and photography dated but picture's greatness, with Griffith's epoch-making devices, still apparent. 3-12-40
(A) **Interesting** (Y) Probably good (C) No

Blue Bird, The (Shirley Temple) (Fox) Handsome, pretentious, technically fine filming of Maeterlinck's fantasy in Technicolor. Discontented little girl seeks blue bird of happiness in world only to find it at home. Able performances, especially Shirley's. Many delightful sequences, some beyond young minds, others strong for sensitive children. 3-26-40
(A) **Pleasing** (Y) **Good** (C) **Mostly fine**

British Intelligence (Karloff, Lindsay) (Warner) Intricate web of mystery and deception in World-War-spy melodrama. Characters and audience baffled by spies who at one moment plot for Germany, next for England. Propaganda and intrigue. Suspenseful but rather awkward and overdone. 4-2-40
(A) Depends on taste (Y) Possibly (C) No

Broadway Melody of 1940 (Eleanor Powell, Fred Astaire, George Murphy) (MGM) Tuneful, eye-filling musical with beautiful settings, highlighted by the superb dancing of the three principals. Simple, fairly plausible story, humorous in spots, but marred by drunkenness as plot motivation, and lack of good taste in some incidents. 3-19-40
(A) **Very gd. of kind** (Y) Mature (C) Little interest

Congo Maisie (Ann Sothern, John Carroll) (Para) Flippant, common but very wise little entertainer is stranded in African rubber camp with arrogant plantation owner, doctor and lonely wife. She solves all situations and as final coup d' etat awes and subdues inciting native witch doctors. Lightweight and possibly diverting. 3-19-40
(A) Fairly amusing (Y) Sophisticated (C) No

Courageous Dr. Christian (Jean Hersholt (RKO) The good Doctor's efforts to get better housing for "squatterstown" inhabitants is opposed by citizenry until serious epidemic awakens their cooperation. Character values obscured by much that is artificial and unconvincing, and an obnoxious little girl is supposed to be very funny. 3-26-40
(A) Hardly (Y) Perhaps (C) No

Dr. Ehrlich's Magic Bullet (Robinson, Ruth Gordon) (Warner) Masterpiece of historical biography. Realistic, superbly filmed authentic biography of German-Jewish doctor's struggles against intolerance, ignorance and hypocrisy and his research in combating disease and discovery of cure for syphilis. Entirely absorbing and in excellent taste. Acting, photography and direction expert. 4-9-40
(A) **Fine of kind** (Y) Mature (C) No

Danger Ahead (Phillip Renfrew) (Monogram) Class B crime and adventure thriller. Royal Mounted Police Sergeant and Captain's cheap-looking, jiu-jitsuing, criminologist daughter solve case of armored-car gold robberies. Trite tale, preposterous situations, serial thriller stuff. 4-2-40
(A) & (Y) Poor (C) No

East Side Kids (Leon Ames, Joyce Bryant) (Monogram) Patterned on "Dead End Kids" pictures Irish cop induces group of youngsters to join Junior officer club. Later, attempting to help pal imprisoned unjustly, they unwittingly become accomplices to counterfeiters and murderers. Confused ethics. Utterly valueless production. 4-2-40
(A) & (Y) Worthless (C) Decidedly not!

Escape to Paradise (Bobby Breen, Kent Taylor) (RKO) Comedy romance provides opportunities for typical "singing" by Breen, who, as ubiquitous little Spanish boy "fixes" business affairs and romances of debonnaire young American and South American siren. Humor rather elementary. For Breen fans. 3-19-40
(A) Mediocre (Y) Perhaps amusing (C) **Amusing**

High School (Jane Withers) (Fox) Artificial story of adolesence. Spoiled daughter of rich ranch owner antagonizes schoolmates with her conceit. She awakens finally and adjusts herself to her new environment, making good in a wild melodramatic thief-chase ending. Jane overacts and mugs as much as ever. 3-19-40
(A) Hardly (Y) **Entertaining** (C) Fairly good

Inspector Hornleigh on Holiday (Harker, Sim) (Fox) Second amusing, English-made Hornleigh comedy, about Cockney detective and his Scotch sergeant relinquishing vacation to solve an insurance-murder-racket, grim but not made gruesome. Expert character acting, in right tempo, makes improbabilities piquant and plausible. Very English dialog. 3-12-40
(A) **Good** (Y) **Amusing** (C) **Hardly**

I Take This Woman (Tracy, Lamarr) (MGM) Artificial sophisticated triangle drama of fancy sex complication in high life. Doctor saves society beauty from suicide, marries her, temporarily deserts real work for fashionable medical racket. Hero and heroine do their best at psychological gymnastics in trite plot. 4-2-40
(A) Fair (Y) & (C) No

Just Like a Woman (John Lodge, Gertrude Michael) (British) Lively yarn about young adventurer in search of black pearls for the maharaja's wife. Ingenious girl, agent for competitive firm, beats him to the draw. Rather amateurish and overdone in spots, but snappy, humorous and mostly entertaining. 4-2-40
(A) Fair (Y) Fairly entertaining (C) Perhaps

Louise (Grace Moore, George Thill) (French-Eng. titles by Deems Taylor) Famous opera excellently adapted to screen. Louise, of humble but decent parents, succumbs to lure of Paris and leaves home for musician lover. Highly dramatic situations. Strikingly photographed. Singing superb despite slightly thin recording. 2-26-40
(A) **Fine of kind** (Y) Mature (C) No

Man From Dakota (Beery, Howard, Del Rio) (MGM) Fast-moving adventure melodrama. Two Union soldiers escape Confederate prison camp and, accompanied by girl fugitive, make their way to Union lines with valuable map. Improbable situations, spotty continuity, but much thrill, suspense and humor. 3-12-40
(A) & (Y) Good of kind (C) No

Man From Montreal, The (Richard Arlen, Andy Devine) (Universal) Very mild and ordinary little thriller laid in Canadian Northwest. Here, a fur trapper, falsely accused of theft and murder, breaks jail and manages to get proper evidence against real crooks. Fine forest scenery chief interest. 3-19-40
(A) Mediocre (Y) Perhaps (C) No

Man Who Wouldn't Talk, The (Lloyd Nolan, Jean Rogers) (Fox) Mediocre mystery melodrama redeemed by some good acting and smoothly constructed plot. Financier is killed; murder trial interrupted by man who confesses; girl, believing him to be her long-lost brother tracks down mystery. Fatuous ending. 4-9-40
(A) & (Y) Hardly (C) No

Millionaire Playboy (Penner, Linda Hayes) (RKO) Painfully inane comedy. Wealthy father hires accomplice to cure girl-shy son. They go to summer resort over-run by super-flippant, gold-digging girls, and crazy complications ensue. Ridiculous attempts at humor. 3-12-40
(A) Inane (Y) & (C) Taste degrading

Music in My Heart (Tony Martin, Rita Hayworth) (Columbia) Music, comedy, romance. Handsome young singer-actor evades immigation officials, woos ambitious heroine away from wealthy bachelor who in end magnanimously solves all problems. Humorous bits. Martin's singing good. Somewhat feeble plot, but mostly entertaining. 3-26-40
(A) Fair (Y) **Entertaining** (C) Probably good

Of Mice and Men (Burgess Meredith, Lon Chaney) (U.A.) Faithful, honest, masterful filming of Steinbeck's powerful novel in all its remorseless reality. Outstanding roles by Meredith as "George," mentor of giant-strength, child-mind "Lennie," played by Chaney, and notably fine cast. Grim, convincing, absorbing. 3-26-40
(A) **Notable** (Y) Too strong (C) By no means

Pinocchio (RKO) Disney's second full length Technicolor cartoon reflects again his marvelous imagination and artistry. Charming and humorous but whole less appealing emotionally than "Snow White," though technically superior. Some sequences too loud and terrifying for very sensitive children—and tiresome for adults. 3-26-40
(A) & (Y) **Notable** (C) Mostly good

Rebecca (Oliver, Joan Fontaine) (United Artists) Absorbing, exquisite filming of famous "best seller." Naive, charming young girl's marriage to man whose life and entire environment is permeated by painful memories of dead first wife. Melodramatic complications subtly handled. Atmosphere of sustained tension. Most effective, artistic and technical devices. 4-9-40
(A) **Superb** (Y) Too mature (C) No

Road to Singapore (Crosby, Lamour, Hope) (Para) Ne'er-do-well son of wealthy old family and pal leave civilization and women for South Sea island. Native girl moves in and competition and complications ensue. Horseplay of Hope and Crosby provide humor. Very thin entertainment. 3-19-40
(A) Depends on taste (Y) Valueless (C) No

Saint's Double Trouble, The (George Sanders, Helene Whitney, Lugosi) (RKO) Complex melodrama. Ex-criminal, turned sleuth, seeks leader of murderous gem smugglers who is his double. Leader tries to pin murder on him and complications ensue. Some trite incidents and confused situations. Excitement, violence, suspense. 4-2-40
(A) Hardly (Y) & (C) No

Secret Four, The (Frank Lawton, Anna Lee) (Monogram) Grim little British-made thriller. Rather incoherent at start, but builds up strong, suspenseful action, as secret band of four men tracks down spy ring, does grisly execution of its leader, saves the British Empire! Rousing, flag-waving finish as England arms for war 4-2-40
(A) Perhaps (Y) Doubtful (C) No

Seventeen (Cooper, Field) (Para) Jazz, jitterbugging, and slang "modernize" film version of famous Tarkington novel. Cooper excellent as impulsive adolescent pursuing somewhat inane young siren despite non-cooperation of charming parents and snooping little sister. Very pleasant moments and amusing throughout 4-2-40
(A) & (Y) **Entertaining** (C) Possibly

Sidewalks of London (Leigh, Laughton) (Para) Absorbing, very English drama. Professional street entertainer takes in penniless girl and loses her when she becomes stage star. Tensely human roles by Laughton as pathetic "busker" and Leigh as temperamental star. Fascinating, authentic London backgrounds finely shown. 3-12-40
(A) **Fine of kind** (Y) Mature (C) No

Tevya (Maurice Schwartz) (Jewish-Eng. titles) Somber, pastoral drama. Ukrainian Jewish girl who marries into other faith is renounced by family, but returns when family is evicted at Czar's command. Artistic pictorial photography. Mostly sad but nice touches of humor. Fine acting. 3-12-40
(A) **Very good of kind** (Y) & (C) Doubtful interest

Three Cheers for the Irish (Thomas Mitchell, Priscilla Lane) (Warner) Down-to-earth caricature-comedy of feud between hopelessly honest old Irishman and young Scot who replaces him on police force, even marries his daughter, and old man becomes mayor by begging voters to defeat him! Hilarious and loud! 3-26-40
(A) Good of kind (Y) & (C) **Amusing**

Too Many Husbands (Arthur, MacMurray, Douglas) (Colum.) Featherweight funful comedy Enoch Arden theme of woman whose lost-at-sea husband returns to find her married to friend. Clever farcical treatment rather redeems utterly ridiculous situations and dialogue which wear thin with much repetition. 4-9-40
(A) Fairly good (Y) Too sophisticated (C) No

Village Barn Dance (Richard Cromwell, Doris Day) (Repub.) Simple, homely tale of small town dominated by wealthy woman who causes granddaughter to almost marry wrong boy. Slight plot merely background for lively doings of radio performers—Lulubelle and Scotty, Vern Vague, Don Wilson—and others—who furnish solution for girl and chief entertainment for audience. 3-19-40
(A) Light (Y) & (C) **Amusing**

Wolf of New York (Lowe, Rose Hobart) (Republic) Usual, but possibly entertaining crime film. Debonnaire lawyer defender of gangsters, embittered by loss of case for innocent lad. Girl persuades governor to appoint him D. A. and he cleans up underworld. Class B. production. 3-12-40
(A) Depends on taste (Y) Valueless (C) No

Young Tom Edison (Mickey Rooney, Weidler, Bainter, Bancroft) (MGM) Serious and successful portrayal of the great Edison's boyhood career in home, school, and community. Theatricalized biography, but authentic, vivid and with deeply human appeal. Mickey is notably Edison instead of Rooney. Supporting cast is outstanding. 3-26-40
(A) (Y) (C) **Very good**

The Federal Film

Edited by Arch A. Mercey
Assistant Director, U. S. Film Service,
Washington, D. C.

Pictures Tell Dramatic Stories

Those concerned with visual means of teaching will be interested in two new books on vital problems of contemporary affairs. They are:

"An American Exodus", by Dorothea Lange and Paul S. Taylor (Reynal and Hitchcock—$2.75); "New Homes for Old", by William V. Reed and Elizabeth Ogg (A Headline Book Foreign Policy Association—25 cents).

The Lange-Taylor book is an exciting pictorial account of the migrant workers documented with text including quotations from the workers as well as citations of findings of fact. The book is no ordinary picture book—it is a pictorial (and text) record of one of our gravest current problems presented with all the dramatic impact that powerful and human photography can give. Miss Lange is ranked as one of the country's outstanding photographers and her work with the Farm Security Administration is internationally famous. Dr. Taylor, member of the University of California faculty, is the leading authority in the U. S. on the problem of migratory labor. He has appeared on numerous occasions before congressional committees and Federal departments as expert consultant on this problem. "An American Exodus" might be called both a sequel and a documentation of John Steinbeck's famed "Grapes of Wrath." The striking use of pictures, as well as the intelligent treatment of the subject, makes this book a "must" in any school library.

Mr. William V. Reed, co-author of "New Homes for Old," is senior project planner of the U. S. Housing Authority and has traveled widely in doing research on the subject of modern housing. His book, written in collaboration with Miss Ogg, is another illustration of the arresting use of pictures with text. This book is not a "picture book" but it implements the discussion with 79 photographs and 5 isometric designs, and 11 other drawings. The book, available on news stands, will be an interesting and valuable addition to courses on housing, sociology and related subjects.

Directory of Government Films Revised

The United States Film Service has just revised its Directory of U. S. Government Films, to include twenty-six new Federal Films. Copies are now available. The additions consist of eight films from the Department of Agriculture, four from the National Youth Administration, two from the U. S. Coast Guard, five from Interior, one from the Division of Labor Standards, one from the Farm Credit Administration, two from the Social Security Board, one from the Marine Corps, one from the Federal Housing Administration, and one from the Bureau of Mines.

Whether you seek

EDUCATION

or

ENTERTAINMENT

The VISUAL WAY

is the BEST WAY!

You can educate while you entertain, just as you entertain while you educate—with Universal's outstanding selection of motion pictures.

Here are pictures that should be on everybody's MUST list:

DEANNA DURBIN in "Three Smart Girls Grow Up"

BING CROSBY, Joan Blondell and Mischa Auer in "East Side of Heaven"

IRENE DUNNE and CHARLES BOYER in "When Tomorrow Comes"

DEANNA DURBIN in "That Certain Age"

Gilbert and Sullivan's "The Mikado" in glorious technicolor, with the D'Oyly Carte Players and London Symphony Orchestra

W. C. FIELDS, EDGAR BERGEN and CHARLIE McCARTHY in "You Can't Cheat an Honest Man"

VICTOR McLAGLEN and JACKIE COOPER in "Ex-Champ"

Doug. FAIRBANKS Jr. and Basil RATHBONE in "The Sun Never Sets"

"The Family Next Door" with Hugh Herbert and Joy Hodges

Don't miss these. Write to Universal's Non-Theatrical Department for further information regarding short-subjects, travelogues, animated cartoons and other feature length pictures.

WRITE FOR FREE CATALOGUE No. 17

UNIVERSAL PICTURES COMPANY, INC.

Rockefeller Center New York, N. Y.

CIRCLE 7-7100

Current Film News

New Film Producing Company

The organization of Academic Film Company with offices at 1650 Broadway, New York City, has been announced. The objective of the new company is the production of dramatized, educational films, not more than two reels in length, depicting American history and personalities. The films are planned primarily to instruct and will be based upon classroom curricular subject matter. The first production, now ready for immediate release, is entitled *Our Constitution*, based upon the events immediately leading to and encompassing the Constitutional Convention and the drafting of the Constitution of the United States in 1787. Additional literature on this first film will be sent upon request. The production schedule calls for one film release each month.

Academic Film Company is both producer and distributor. It is their intention to maintain a controlled, franchise distribution set-up, and to work in close association with their franchise holders. The films are produced at the Hollywood studio of the company and professional actors employed.

FILMS, INCORPORATED, 330 W. 42nd Street, New York City, makes a new departure from its past policy in presenting for individual rental a wide selection of educational short subjects from its vast library. The new 68-page 16mm silent and sound "Educational Film Directory," just off the press, classifies this material into nine main groups: art, biology and nature study, economics and government, geography, health and hygiene, history, music, science, sports and recreation. The "School List" of 68 feature pictures, carefully selected from major theatrical productions, for their educational and cultural content, is also included in the catalog.

Conquest of the Air is announced as the "first of a new series of educational documentaries" for auditorium work. (Reviewed in EDUCATIONAL SCREEN for February.)

Material recently produced by Contemporary Films in Oakland, California, is also offered by Films, Incorporated for the first time. This is a series of films made expressly for use in the first three grades. Titles are "Baby Rabbit in 'I Wanted Red Wings' ", "Minor Duck in 'I Love to Make Music' ", and "Baby Rabbit in 'Carrot Pie' ". Each unit consists of one reel of 16mm sound film and supplementary aids including slides for story telling, phonograph records for ear training, and booklets. The characters in the film are animals played by marionettes. A commentator tells the story and concurrently the words appear on the lower portion of the screen. The slides show scenes from the picture with the story printed below them for group reading. The phonograph record contains the simplified individual musical themes of the characters which are developed in the background music of the film. The application of the booklets is described in detail in connection with each individual picture.

HOFFBERG PRODUCTIONS, 1600 Broadway, New York City, are offering a timely reel on Finland, which was produced with the cooperation of the government of the Republic of Finland, namely:

Finland Speaks, a graphic picture of the Finnish nation showing the struggle of the people to wrest a living from their natural resources. The Finns are depicted at work and at play as they modernize their country, improve their living conditions, build great industries and educate their children. Then, the film shows the holocaust of war which is slowly leveling their cities, destroying their industries and killing the population. A fine narration is provided by Maurice Hart.

HARMON FOUNDATION INC., Divison of Visual Experiment, 140 Nassau Street, New York City, has recently released two new films made in London by Mr. and Mrs. Simon Moselsio of the Art Division of Bennington College, Vermont. They are one-reel silent subjects.

How Stained Glass Windows Are Made is the title of one of them. It is intended for use in art and other groups interested in studying the techniques concerned with the planning and designing of the windows and also the methods of actually putting the windows together. The film shows color reproductions of famous medieval windows of English, Flemish, French, German, and Italian design. The actual process of the making of a window today was photographed in the studios of Lowndes and Drury through the cooperation of Francis H. Spear, famous stained glass window artist.

Let's Go to the Zoo, the other subject, is intended primarily for children, in the lower grades and in addition to some line drawings on titles, has all its titles in simple verse. It is adaptable also, however, for older children and even adult programs.

The Netherlands—A Country Claimed from the Sea, is another silent 16mm reel just completed by the Harmon Foundation, and is in color. Intended to fit in with the school study of the lowlands, it shows the general terrain of the country, its use in agriculture, manner of dress of old Holland, life in the modern cities. Editorial cooperation for curriculum adaptations of the film was given by Louise Condit, Supervisor of Education of the Brooklyn Children's Museum.

BAILEY FILM SERVICE, 1650 Cosmo Street, Hollywood, California, announces three new and timely films available for sale or rent:

Russia—1 reel silent, available either in color or black-and-white—produced last year by Dr. William G. Campbell, Professor of Education, University of Southern California. It is one of the few films on Russia in color. The editing, by Mary Clint Irion, brings out such important features as Russian education, the creche, youth activities, living conditions, economic status, cooperative farms, religion, and the contrast between Soviet and Imperial Russia.

Norway and **Denmark**—each ½ reel silent, black-and-white or color—make with the previously announced films *Finland* and *Sweden*, a series of pictures on the people of Scandinavia. Also produced by Dr. Campbell and edited by Miss Irion, they offer an insight into the lives of these people by showing them at their daily activities of work and play.

GARRISON FILMS INC., 1600 Broadway, New York City, are releasing in 16mm sound:

Kameradschaft (Comradeship), the 8-reel G. W. Pabst feature produced some years ago at a point on the border of France and Germany. It was sponsored in America by the Philadelphia Art Alliance and was awarded the Gold Medal of International Distinction by the London Faculty of Arts. French and German dialog, English titles.

A special catalog of documentary films produced by members of the Association of Documentary Film Producers will be issued this month by Garrison Films. Included will be the work of Joris Ivens, Sheldon Dick, Paul Strand, Julian Roffman, Leo T. Hurwitz, and others. Productions of British and European film makers will also be made available.

LEWIS FILM SERVICE, 105 E. First Street, Wichita, Kansas, has recently assembled a group of 16mm silent films on the present European situation:

Children of the Balkans, Women of Poland, Why Hitler, War in Europe, Finland Fights, Czechoslovakia, Germany Invades Austria. These subjects cover the nations most affected by present diplomatic endeavors and will be kept up to date as new releases are made available.

Another addition to the Lewis library is the well-known religious subject, *The Man Nobody Knows,* edited by Bruce Barton, portraying present-day scenes in the Holy Land.

FILM CIRCULATION CORPORATION, 1600 Broadway, New York City, have several new 16mm sound films for release, namely:

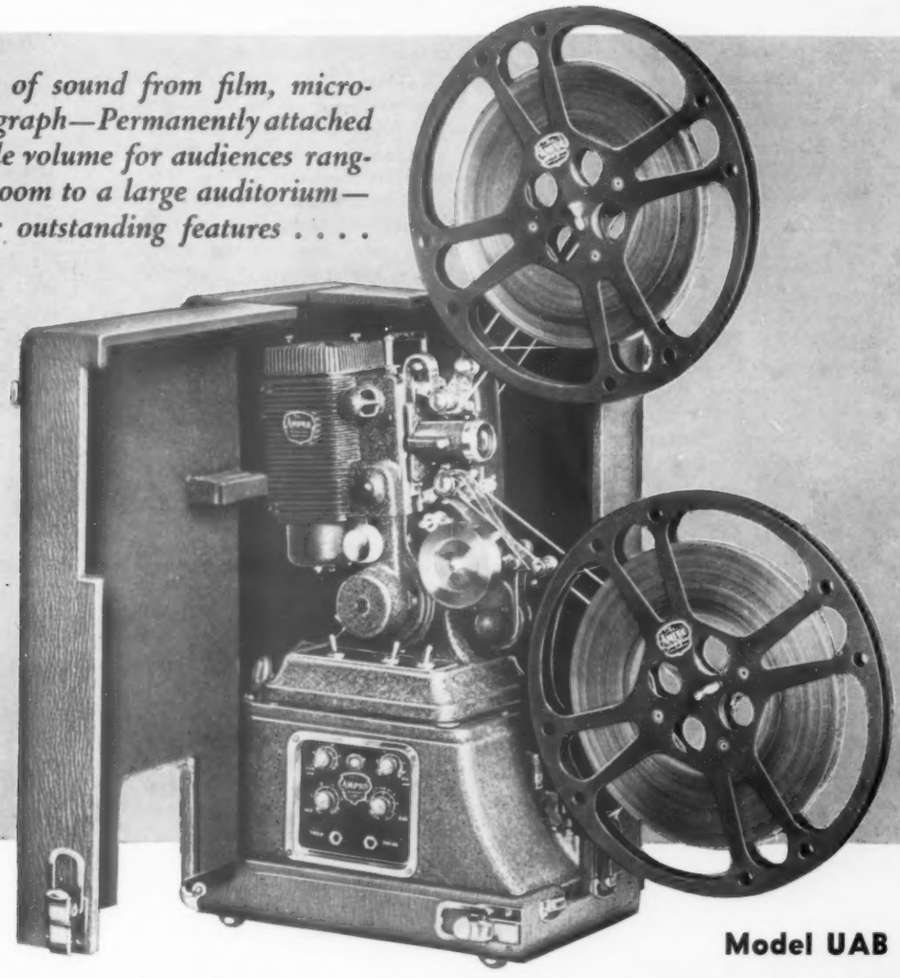
Song Cartunes—bouncing ball animated song reels. Popular songs and melodies of the past are arranged with synchronized bouncing ball, with words and music so audiences can join in group singing.

Out of the Inkwell—a group of car-

(*Concluded on page* 179)

Ideal for Schools

Complete mixing of sound from film, microphone and phonograph—Permanently attached reel arms—Ample volume for audiences ranging from a classroom to a large auditorium—And many other outstanding features . . . .



Model UAB

New Improved Ampro Sound Projector

This new Ampro 16 mm. Sound Projector Model UAB offers remarkable adaptability to the varying demands of school Audio-Visual programs. At unusually low price levels you can obtain all the standard Ampro features plus basic new improvements that make this model an outstanding value. These features include: Sound-proofed blimp case . . . double action tone control . . . projector volume control and microphone volume control which permits complete mixing of sound from film, microphone and phonograph . . . master volume control which permits reduction of extraneous noises in low position and gives reserve amplification in high positions . . . attached folding reel arms . . . sound and silent speeds . . . rheostat control . . . reverse picture operation . . . still pictures . . . new amplifier conforming with new R.M.A. tube ratings which operate the tubes with a larger factor of safety . . . 6L6 Beam Power tubes with three triode driver tubes insure high output and low distortion without overloading . . . all tubes easily accessible . . . forced draft ventilation on amplifier . . . A.C.-D.C. motor . . . 50-60 cycle amplifier (operates on D.C. with 150-watt convertor) . . . 2-inch F 1.6 super lens (all sizes interchangeable) . . . 750-watt illumination . . . automatic rewind . . . pilot and dial lamps . . . lens lock . . . up and down tilt . . . framer . . . centralized oil well . . . 12-inch deluxe speaker.

Model UAB—Complete with sound-proofed blimp case...$365

Model UA—Same as model UAB but without blimp case.$345

Send coupon for full detailed information.

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Gentlemen: Please send me your latest catalog giving full infomation on the new Ampro model UAB and the complete line of Ampro 16 mm. silent and sound projectors.

Name.....

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City..... *State*.....

Among the Producers Where the commercial firms announce new products and developments of interest to the field.

New Slide Projector by B&L

A new 2" x 2" slide projector providing crisp, brilliant screen images is now being offered by Bausch & Lomb, Rochester, New York, for the serious worker with miniatures who desires projection of black-and-white and color transparencies comparable to the 3¼" x 4" slides used in standard Balopticons.

The high efficiency of the optical system is due to the effective use of a 150-watt, single contact base bulb with a silvered, concave reflector, a triple lens condenser, one lens of which is made of heat absorbing glass, and a five-inch f:3.8 Cinephor projection lens of a standard type used in regular theatre projection. This lens is well corrected for spherical and chromatic aberrations and astigmatism, affording a flat field.

2"x2" B & L Slide Projector

The slide temperature is kept low enough to operate without fear of damage to valuable films. A metal chimney and lamphouse louvres provide proper air circulation over the bulb and the heat-absorbing condenser lens.

The slide carrier is provided with a lock tab at each end to limit excursion and has a spring tension to permit use of cardboard, metal, or glass mounted slides. These springs hold the slide perpendicular to the optical axis and thus insure correct focus over the entire area.

The instrument is substantially made, utilizing modern die cast alloy construction. The body is finished in gray crinkle lacquer with the projection lens focusing tube in satin chromium plate. A sturdy wood case, covered with black pebble-grain imitation leather, is available for carrying the projector.

Prices on Kodachrome Duplicates Lowered

24 x 36mm size duplicates from K135, and 24x36mm reduction from K828, and all listed sizes of Kodachrome Professional film transparencies, except 45 x 107mm, 6 x 13cm, and 11 x 14 inches, are now priced by Eastman Kodak Company, Rochester, N. Y., as follows:

First duplicate from each original, $ .25.

Each succeeding duplicate from same original, up to 80 duplicates, $ .20. (Prices for larger quantities quoted on request.)

Minimum charge per order (duplicates from K135 and K828 transparencies) $1.00.

Minimum charge per order (duplicates from Kodachrome Professional Film transparencies), $1.50.

These prices apply to each original duplicated.

Originals may be mounted or unmounted. 24 x 36mm duplicates will be returned in Kodak Ready-Mounts ready for projection, at no extra charge, unless the order specifies otherwise. They also may be reproduced in sequence on film strips provided the originals being copied are all of the same size. The first duplicate price applies to each frame on the first strip as well as subsequent strips. Duplicates on film strips are double-frame, 24 x 36mm size. Single-frame strips cannot be supplied.

Vocational Guidance Filmstrips

Experts in the Vocational Guidance field state that the new series of 35mm strip films—"How to get a Job"—just released by the Stillfilm Company of Los Angeles, are of exceptional value inasmuch as they include a vivid portrayal of each and every step necessary, for High and Junior High students, to obtain a job or business position in the business world of today.

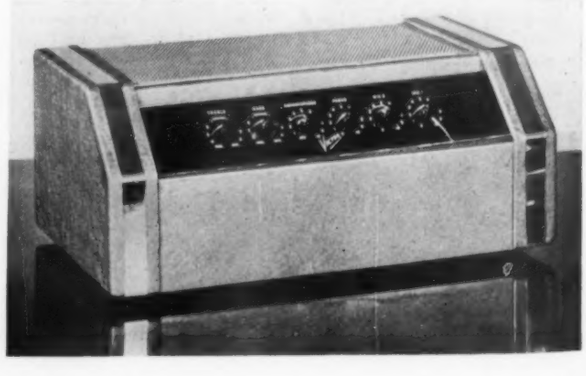
Prepared and edited by S. D. Benbow, Assistant Director of Vocational Guidance, and G. L. Hart, Director of Visual Education, Oakland Schools, California, both of whom have had a wide and varied experience in vocational work, this unusually instructive series of six short-length stills includes a number of unique presentations on personal behavior, business manners, appearance, methods of preparation as well as the fundamentals so necessary in making a path to a job with big business in a business way. Principals and teachers who are interested in this instructive series of stills can obtain further information from The Stillfilm Company, 4703 W. Pico Blvd., Los Angeles, Calif.

Ampro Catalogue

The new Ampro catalogue just off the press is a handsome streamlined pictorial version of their 1940 line of silent and sound 8mm and 16mm motion picture equipment. Not only does it present illustrated descriptions of its 8mm and nine 16mm models, but the general fundamental features which characterize Ampro projectors are clearly pictured. Data on their Tri-Purpose Public Address System, miscellaneous accessories used with motion picture euipment, and an equipment check chart complete this informative booklet. The Ampro Corporation, 2839 N. Western Avenue, Chicago, will furnish copies to those who request same.

New Victor Amplifier for Sound Movies

The Victor Animatograph Corporation has just announced an amazing new unit in sound equipment that is used in connection with their 16mm motion picture projector; as well as in the reproduction of recordings, or public address system, or radio transmission. These new amplifiers (Units "O" and "R") contain a new clarity of rich low tones and clear highs as well as perfect reproduction of speech and music from sound track, records, or "mike." Another remarkable feature is that any choice of tone is easily made possible by the Victor system of controls. The amplifier, in addition, has been very beautifully redesigned as evidenced in the accompanying picture. Complete details and information can be secured from the Victor Animatograph Corporation at Davenport, Iowa.



Bell & Howell Projector for Home Use

Announcement of a new DeLuxe Model Filmosound designed especially for home use, has been made by Bell & Howell. The new machine, which is housed in a polished walnut case, will project both silent and sound 16mm films. A 750-watt lamp furnishes brilliant illumination. The projector unit is fundamentally the same as that of the "Academy" Filmosound, the model popular with schools. Bell & Howell is making a special offer of library programs to purchasers of the new equipment. Twelve 50-minute sound picture programs, on a variety of subjects, are offered at a total rental said to represent a substantial saving over the standard rate on the same film. For further information, write to the Bell & Howell Company, 1801 Larchmont Ave., Chicago. A circular illustrating and pricing the DeLuxe Model, will be sent upon request.

Spencer Teaching Aids

An attractive, liberally illustrated 11" x 14" brochure on "Spencer Teaching Aids" has been prepared with the school field's interests primarily in mind by Spencer Lens. For the teacher of biology the first two pages describing four microscope models will be of especial interest. The great variety of Delineascopes offered provides wide selection, including models for the projection of 2" x 2" slides, film slides, 3¼" x 4" glass slides and combination machines for standard slides and opaque material. Many other teaching accessories are listed, among them microtomes, microprojectors, magnifiers, spectrometers and reading instruments. A copy of the catalogue will be sent upon request to Spencer Lens Company, Buffalo, New York.

Leica Manual Revised

A new printing of the *Leica Manual* has just been issued, which is designated as the 1940-41 edition. The entire book has been completely revised to include the latest information on miniature camera photography and Leica equipment. All details have been carefully checked so that the wealth of information contained in this volume should be up to date. A new filter factor tab is included. Film groupings have been changed to coincide with recent advances in films for miniature cameras. New information is included on developers, exposure, projection, stereo-projection, lenses, Leica accessories, etc.

Besides acquainting photographers with various photographic endeavors to which their cameras can be applied, it explains in detail how different types of pictures can be made. The Manual is obtainable at photographic dealers.

Current Film News

(*Concluded from page* 176)

toons with Koko the clown, created by Max Fleischer. Eleven subjects are now available, with more to come later.

PICTORIAL FILMS, 1650 Broadway, New York City, have acquired exclusive distribution rights to *The Adventures of Chico*, the 16 mm sound feature which has been highly acclaimed by film critics and reviewers.

The National Board of Review gave it an "Exceptional Photoplay" rating. It is described as a delightful story about a little Mexican boy, Chico, and his playmates, the birds and beasts of the stony Northern Mexico plateau. Prints are available on a rental or lease basis.

WALTER O. GUTLOHN, INC., 35 W. 45th Street, New York City, report the release of the following Universal Pictures in 16mm sound, available to schools on an advance approval basis:

Mad About Music, featuring the golden-voiced Deanna Durbin with Herbert Marshall, Gail Patrick, Arthur Treacher in a sparkling comedy-drama centering about a girls school in the Swiss Alps.

Letter of Introduction, with Edgar Bergen, Charlie McCarthy, Adolphe Menjou, Andrea Leeds and George Murphy. A powerful dramatic story interspersed with hilarious comedy.

Service De Luxe, a comedy hit featuring Constance Bennett, Vincent Price, Charlie Ruggles, Helen Broderick, Mischa Auer.

Goodbye Broadway, starring Alice Brady, Charles Winninger, Tommy Riggs and "Betty Lou," Tom Brown, and Dorothea Kent. A comedy based on the Broadway stage success.

Swing That Cheer, a college picture with Tom Brown, Robert Wilcox, Andy Devine, Constance Moore and Ernest Truex.

Proceedings of the D. V. I.

(*Concluded from page* 155)

revision and improvement in its printed services on Evaluations and News Letter; new materials furnished by the A S F L, which are otherwise unavailable to schools, such as late issues of *March of Time;* elaborate plans for supplying radio-recordings such as DuPont's *Cavalcade of America;* additional cooperation from commercial firms and affiliations with Teaching Film Custodians, with Ohio State University's Evaluation of School Broadcasts project, with the National Film Society of Canada, etc.; and finally the gratifying evidence of progress as shown in growth of Association membership from 18, (in September, 1938) to 64 (as of March, 1940). And Mr. Hearon concludes:

"With its place in the educational world determined the Association seems ready for the future. Its functions move in new areas and serve unfilled needs. There seems to be no conflict; no working at cross purposes. The future is interesting and challenging."

Literature in Visual Instruction

(*Concluded from page* 162)

Fifty Foreign Films — Reviewed by Otto F. Bond. University of Chicago Press, Chicago, 1939, 56 pp. 50 cents.

The fifty film reviews presented in this pamphlet have been reprinted from *Books Abroad*—1935-39, by permission of The University of Oklahoma Press, and have been selected from the two hundred foreign-language films viewed by the writer since 1934. As stated in the Foreword, the films have been subjected to criteria which include social and educational as well as artistic and entertainment value. Critical reviews are given of twenty-eight French films, ten German, two Spanish, one Italian, four Russian, one Yiddish, two Hungarian, one Chinese and one Japanese. Producer's release date and distributors are indicated insofar as this information is known.

In preparing this material Mr. Bond has rendered a splendid service to language and social science teachers, and other individuals or groups interested in foreign film programs.

The Use of Motion Pictures in the Science Classroom — Vol. 2, No. 1 *The Science Forum,* issued by Scott Foresman and Company.

As an aid to science teachers who appreciate the value of visual education to learning, Scott, Foresman and Company have selected some free and inexpensive films suitable for use in science classes and correlated them with important unit-topics usually included in good junior high science textbooks. For users of their *Science Problems Series,* they have referred to exact units in those books which correlate with the subjects of these films. Many of the films may be obtained free from the United States Film Service, and from industrial firms.

Visual Method in the Church Curriculum. Educational Bulletin No. 901, International Council of Religious Education, 203 N. Wabash Ave., Chicago. 1940, 60 pp. 35 cents.

This is a very complete treatment of the use of projected pictures in the church curriculum, prepared by the Council's Committee on Visual Education, of which Dr. Paul H. Vieth of Yale University is chairman. The first half of the bulletin discusses the advantages of visual aids in the church's teaching and preaching program, types of suitable materials available, various methods of use, and the equipment needed for an efficient program, with rough estimates of cost. The second half gives sources of slides, filmstrips, soundslide films and motion picture films. A very valuable feature is the evaluated list of over one hundred sound and silent films which have been found suitable for church use. Information is also given on each picture as to contents, length, size, whether silent or sound, distributors, and cost. In another section the film titles are classified by subject.

HERE THEY ARE

A Trade Directory for the Visual Field

FILMS

Akin and Bagshaw, Inc. (3)
1425 Williams St., Denver, Colo.

Audio-Film Libraries (2)
661 Bloomfield Ave., Bloomfield, N. J.
(See advertisement on page 172)

Bailey Film Service (3, 4)
1651 Cosmo St., Hollywood. Cal.
(See advertisement on page 168)

Bell & Howell Co. (3)
1815 Larchmont Ave., Chicago
(See advertisement on page 140)

Castle Films (3)
R C A Bldg., New York City
(See advertisement on page 137)

College Film Center (3, 5)
59 E. Van Buren St., Chicago.

DeVry Corporation (3, 4)
1111 Armitage Ave., Chicago
(See advertisement on inside front cover)

Dudley Visual Education Service (1)
736 S. Wabash Ave., Chicago
4th Fl., Coughlan Bldg.
Mankato, Minn.

Eastin 16 mm. Pictures (3)
707 Putnam Bldg., Davenport, Ia.
Burns Bldg., Colorado Springs, Colo.

Eastman Kodak Stores, Inc. (3)
Kodascope Libraries
356 Madison Ave., New York City

Eastman Kodak Stores, Inc. (3)
1020 Chestnut St., Philadelphia, Pa.
606 Wood St., Pittsburgh, Pa.

Edited Pictures System, Inc. (3)
330 W. 42nd St., New York City

Erpi Classroom Films, Inc. (2, 5)
35-11 35th Ave., Long Island City, N. Y.
(See advertisement on page 167)

Film Circulation Corp. (2)
1600 Broadway, New York City
(See advertisement on page 170)

Films, Inc. (3)
330 W. 42nd St., New York City
64 E. Lake St., Chicago
314 S. W. Ninth Ave., Portland, Ore.

Frith Films (1)
P. O. Box 565, Hollywood, Calif.

Garrison Films (3, 6)
1600 Broadway, New York City
(See advertisement on page 168)

General Films, Ltd. (3, 6)
1924 Rose St., Regina, Sask.
156 King St., W. Toronto

Walter O. Gutlohn, Inc. (3)
35 W. 45th St., New York City
(See advertisement on page 173)

Harvard Film Service (3, 6)
Biological Laboratories,
Harvard University, Cambridge, Mass.

Guy D. Haselton, Travelettes (1, 2, 4)
7936 Santa Monica Blvd.,
Hollywood, Calif.

David B. Hill (3)
Salem, Ore.
(See advertisement on page 168)

Hoffberg Productions, Inc. (2, 5)
1600 Broadway, New York City

Ideal Pictures Corp. (3, 6)
28 E. Eighth St., Chicago, Ill.
(See advertisement on page 170)

International Film Bureau (3, 5)
59 E. Van Buren St., Chicago

Lewis Film Service (3)
105 E. 1st St., Wichita, Kan.
(See advertisement on page 168)

The Manse Library (3)
1521 Dana Ave., Cincinnati, O.

Nu-Art Films, Inc. (3)
145 W. 45th St., New York City
(See advertisement on page 168)

Pictorial Films (2)
1650 Broadway, New York City
(See advertisement on page 171)

Post Pictures Corp. (3)
723 Seventh Ave., New York City

United Educator Films Co. (2)
State Theatre Bldg., Pittsburgh, Pa.
107 South Court, Sq., Memphis, Tenn.

United Projector and Films Corp. (1, 4)
228 Franklin St., Buffalo, N. Y.

Universal Pictures Co., Inc. (5)
Rockefeller Center, New York City
(See advertisement on page 175)

Visual Education Service (3)
131 Clarendon St., Boston, Mass.

Wholesome Films Service, Inc. (1, 6)
48 Melrose St., Boston, Mass.

Williams, Brown and Earle, Inc. (3, 6)
918 Chestnut St., Philadelphia, Pa.

Y.M.C.A. Motion Picture Bureau (3, 4)
347 Madison Ave., New York City
19 S. LaSalle St., Chicago
351 Turk St., San Francisco, Cal.

MOTION PICTURE MACHINES and SUPPLIES

The Ampro Corporation (3)
2839 N. Western Ave., Chicago
(See advertisement on page 177)

Bell & Howell Co. (3)
1815 Larchmont Ave., Chicago
(See advertisement on page 140)

DeVry Corporation (3, 6)
1111 Armitage St., Chicago
(See advertisement on inside front cover)

Eastman Kodak Stores, Inc. (3)
Kodascope Libraries
356 Madison Ave., New York City

Eastman Kodak Stores, Inc. (3)
1020 Chestnut St., Philadelphia, Pa.
606 Wood St., Pittsburgh, Pa.

General Films, Ltd. (3, 6)
1924 Rose St., Regina, Sask.
156 King St., W. Toronto

Hirsch & Kaye (3)
239 Grant Ave., San Francisco, Cal.

Holmes Projector Co. (3, 6)
1813 Orchard St., Chicago
(See advertisement on page 173)

Ideal Pictures Corp. (3, 6)
28 E. Eighth St., Chicago
(See advertisement on page 170)

Jarrell-Ash Company
165 Newbury St., Boston, Mass.

RCA Manufacturing Co., Inc. (2)
Camden, N. J.
(See advertisement on page 161)

S. O. S. Cinema Supply Corp. (3, 6)
636 Eleventh Ave., New York City

United Educator Films Co. (2)
State Theatre Bldg., Pittsburgh, Pa.
107 South Court, Sq., Memphis, Tenn.

United Projector and Films Corp. (1, 4)
228 Franklin St., Buffalo, N. Y.

Universal Sound Projector (2)
1917 Oxford St. Philadelphia, Pa.
(See advertisement on page 171)

Victor Animatograph Corp. (3)
Davenport, Iowa
(See advertisement on page 169)

Visual Education Service (3)
131 Clarendon St., Boston, Mass.

Williams, Brown and Earle, Inc. (3, 6)
918 Chestnut St., Philadelphia, Pa.

SCREENS

Da Lite Screen Co.
2717 N. Crawford Ave., Chicago
(See advertisement on page 165)

Eastman Kodak Stores, Inc.
1020 Chestnut St., Philadelphia, Pa.
606 Wood St., Pittsburgh, Pa.

Motion Picture Screen & Accessories Co., Inc.
351 W. 52nd St., New York City

Williams, Brown and Earle, Inc.
918 Chestnut St., Philadelphia, Pa.

SLIDES and FILM SLIDES

Eastman Educational Slides
Johnson Co. Bank Bldg.,
Iowa City, Ia.

Edited Pictures System, Inc.
330 W. 42nd St., New York City

Friends of the Western Mountains
Arcata, Calif. (2x2 "Kodachromes")

Ideal Pictures Corp.
28 E. Eighth St., Chicago, Ill.
(See advertisment on page 170)

Keystone View Co.
Meadville, Pa.
(See advertisement on page 138)

Radio-Mat Slide Co., Inc.
1819 Broadway, New York City
(See advertisement on page 168)

Society for Visual Education
100 E. Ohio St., Chicago, Ill.
(See advertisement on outside back cover)

Visual Education Service
131 Clarendon St., Boston, Mass.

Visual Sciences
Suffern, New York
(See advertisement on page 168)

Williams, Brown and Earle, Inc.
918 Chestnut St., Philadelphia, Pa.

STEREOGRAPHS and STEREOSCOPES

Keystone View Co.
Meadville, Pa.
(See advertisement on page 138)

STEREOPTICONS and OPAQUE PROJECTORS

Bausch and Lomb Optical Co.
Rochester, N. Y.
(See advertisement on page 163)

DeVry Corporation
1111 Armitage Ave., Chicago
(See advertisement on inside front cover)

Eastman Kodak Stores, Inc.
Kodascope Libraries
356 Madison Ave., New York City

Eastman Kodak Stores, Inc.
1020 Chestnut St., Philadelphia, Pa.
606 Wood St., Pittsburgh, Pa.

General Films Ltd.
1924 Rose St., Regina, Sask.
156 King St., W. Toronto

Hirsch & Kaye
239 Grant Ave., San Francisco, Cal.

Jarrell-Ash Company
165 Newbury St., Boston, Mass.

Spencer Lens Co.
19 Doat St., Buffalo, N. Y.
(See advertisement on inside back cover)

Williams, Brown and Earl, Inc.
918 Chestnut St., Philadelphia, Pa.

ELECTRICAL TRANSCRIPTIONS

Radio Transcription Co. of America
Hollywood Blvd. at Cosmo,
Hollywood, Calif.

REFERENCE NUMBERS

(1) indicates firm supplies 16 mm. silent.
(2) indicates firm supplies 16 mm. sound-on-film.
(3) indicates firm supplies 16 mm. sound and silent.
(4) indicates firm supplies 35 mm. silent.
(5) indicates firm supplies 35 mm. sound.
(6) indicates firm supplies 35 mm. sound and silent.

Continuous insertions under one heading, $1.50 per issue; additional listings under other headings, 75c each.